

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Neff et al. Examiner : Akintola, Olabode
Application No. : 10/086,116 Art Unit : 3691
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Title : Electronic Bartering System with Facilitation Tools

Mail Stop Appeal Brief - Patents
Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

Sir/Madam:

This Appeal Brief is submitted pursuant to the Notice of Appeal filed July 31, 2009 in the above-identified application. This is an appeal from the Final Office Action mailed July 9, 2009. This Appeal Brief is filed on October 30, 2009, which is within three months of the filing date of the Notice of Appeal. This Appeal Brief is filed contemporaneously with a Petition for a One-Month Extension of Time and the fee set forth in 37 C.F.R. § 1.17(a)(1). Therefore, this Appeal Brief is timely filed. This Appeal Brief is also accompanied by the fee set forth in 37 C.F.R. § 41.20(b)(2).

TABLE OF CONTENTS

I.	REAL PARTY IN INTEREST	4
II.	RELATED APPEALS AND INTERFERENCES	4
III.	STATUS OF CLAIMS	4
IV.	STATUS OF AMENDMENTS	4
V.	SUMMARY OF CLAIMED SUBJECT MATTER	5
VI.	GROUND OF REJECTION TO BE REVIEWED ON APPEAL	5
VII.	ARGUMENT	9
VIII.	CLAIMS APPENDIX	22
IX.	EVIDENCE APPENDIX	31
X.	RELATED PROCEEDINGS APPENDIX	32

TABLE OF AUTHORITIES

Cases

<u>Graham v. John Deere Co.</u> , 383 U.S. 1 (1966)	10, 18 and 19
---	---------------

Statutes

35 U.S.C. § 103(a)	4, 9, 10 and 18
--------------------------	-----------------

Other Authorities

Examination Guidelines for Determining Obvious Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International v. Telflex Inc., 72 Fed. Reg. 57,526 (Oct. 10, 2007)	10
May 3, 2007 PTO Memorandum	10
M.P.E.P. § 2141.02(VI)	16
M.P.E.P. § 2143.03	15, 16, 19 and 20

I. REAL PARTY IN INTEREST

The assignee, BarterSecurities, LLC, is the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

To the knowledge of Appellant or his representative, there are no other appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. The status of the claims in the application:

1. Claims 1-26, 136 and 138 stand rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,418,419 of Nieboer, et al. ("Nieboer") in view of USPN 6,598,026 of Ojha et al. ("Ojha") and further in view of Patel ("Investigating is the Best Prepreparation...", Financial Times, London, (UK), January 29, 2000, p. 10.
2. Claims 137 and 139-141 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nieboer in view of Ojha and further in view of Patel and still further in view of Santoli ("The Striking Price: Some Option?", Barons, New York, NY, August 23, 1999, Vol. 79, Issue 34, page MW13)
3. Claims 142-144 were added prior to the Final Office Action mailed July 9, 2009. The Office failed to address claims 142-144 in any way in the Final Office Action. Applicant submits that claims 142-144 are still pending.

B. The claims on appeal:

Claims 1-26 and 136-141 are on appeal (see Section VIII, Claims Appendix).

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the final rejection of July 9, 2009.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The subject application contains eight independent claims which are the subject of this appeal, namely claims 1, 7, 13, 14, 15, 20, 25, and 26. The claims are supported by the specification in at least the citations provided below.

Claim 1 recites a method of responding to order flow in a securities trading system. (Specification at p. 17, ¶ 239, Section IX, Evidence Appendix, Tab B). The method comprises establishing a rule for a market maker. The rule is for automatically generating a contra order in response to an order in a securities trading system. (*Id.*, at p. 18, ¶¶ 244 and 251, and Figs. 16 and 54-57). The rule, with no symbols specified, comprises at least one condition. (*Id.*, at p. 18, ¶ 244, p. 20, ¶ 279, p. 21, ¶ 299, 310, and Figs. 58 and 59). The at least one condition allows matching based on at least one characteristic describing the order. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 19, ¶ 258, p. 21, ¶¶ 299-308, and Figs. 59-61). The characteristic is selected from a group comprising market capitalization. (*Id.*, at p. 20, ¶ 279, and Figs. 59-61). The method further comprises receiving from a trader the order (*Id.*, at Figs. 10, 21, 24, 26, 27, 29, 37, 51 and 52, and p. 18, ¶¶ 244, and 251, p. 19, ¶ 258); matching on the securities trading system the order to the rule (*Id.*, at p. 5, ¶ 100, and p. 18, ¶¶ 244 and 251); automatically generating the contra order in response to the order, if the rule is satisfied (*Id.*, at p. 18, ¶¶ 244 and 251); and providing the contra order for acceptance (*Id.*, at p. 18, ¶¶ 244 and 251, and p. 21, ¶ 309).

Claim 7 recites a system for responding to a financial order. (*Id.*, at p. 17, ¶ 239). The system comprises: a processor and a memory operatively connected to the processor. (*Id.*, at Fig. 1). The processor is operative with control instructions stored in the memory to establish for a market maker a rule for automatically generating a contra order in response to an order. (*Id.*, at p. 18, ¶¶ 244 and 251). The rule, with no symbols specified, comprises at least one condition. (*Id.*, at p. 18, ¶ 244, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Figs. 58 and 59). The at least one

condition allows matching based on at least one characteristic describing the order. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 19, ¶ 258, p. 21, ¶¶ 299-308, and Figs. 59-61). The characteristic is selected from a group comprising market capitalization. (*Id.*, at p. 20, ¶ 279, and Figs. 59-61). The processor is further operative with the control instructions stored in memory to receive from a trader the order (*Id.*, at Figs. 10, 21, 24, 26, 27, 29, 37, 51 and 52, and p. 18, ¶¶ 244 and 251, and p. 19, ¶ 258); match the order to the rule (*Id.*, at p. 5, ¶ 100, p. 18, ¶¶ 244 and 251); automatically generate the contra order in response to the order, if the rule is satisfied (*Id.*, at p. 18, ¶¶ 244 and 251); and provide the contra order for acceptance. (*Id.*, at p. 18, ¶¶ 244 and 251, and p. 21, ¶ 309).

Claim 13 recites a method of responding to order flow in a securities trading system. (*Id.*, at p. 17, ¶ 239). The method comprises establishing a rule for a market maker. The rule, with no symbols specified, operates as a filter for automatically generating a contra order in response to an order in a securities trading system. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Fig. 58). The rule comprises at least one characteristic describing the order. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 19, ¶ 258, p. 21, ¶¶ 299-308, and Figs. 59-61). The characteristic is selected from a group comprising market capitalization. (*Id.*, at p. 20, ¶ 279, and Figs. 59-61). The method further comprises: receiving from a trader the order (*Id.*, at Figs. 10, 21, 24, 26, 27, 29, 37, 51 and 52, and p. 18, ¶¶ 244 and 251, and p. 19, ¶ 258); automatically generating by the securities trading system the contra order in response to the order, the contra order comprising an offer price and an offer size, if the rule is satisfied (*Id.*, at p. 18, ¶¶ 244 and 251); and providing the contra order for acceptance. (*Id.*, at p. 18, ¶¶ 244 and 251, and p. 21, ¶ 309).

Claim 14 recites a system for responding to order flow. (*Id.*, at p. 17, ¶ 239). The system comprises means for establishing a rule for a market maker. The rule, with no symbols specified, operating as a filter for automatically generating a contra order in response to an order. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Fig. 58 and 59). The rule comprises at least one characteristic describing the order. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 19, ¶ 258, p. 21, ¶¶ 299-308, and Figs. 59-61). The characteristic is selected from a group comprising market capitalization. (*Id.*, at p. 20, ¶ 279, and Figs. 59-61). The method further comprises:

means for receiving from a trader the order (Id., at Figs. 10, 21, 24, 26, 27, 29, 37, 51 and 52, and p. 18, ¶¶ 244 and 251, and p. 19, ¶ 258); means for automatically generating the contra order in response to the order, the contra order comprising an offer price and an offer size, if the rule is satisfied (Id., at p. 18, ¶¶ 244 and 251); and means for providing the contra order. (Id., at p. 18, ¶¶ 244 and 251, and p. 21, ¶ 309).

Claim 15 recites a method of establishing a rule to respond to an order in a securities trading system. (Id., at p. 17, ¶ 239). The method comprises storing on a securities trading system a plurality of variables and operators. (Id., at p. 18, ¶¶ 244 and 251). The method further comprises providing to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule, with no symbols specified (Id., at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Fig. 58 and 59). The rule is used to automatically generate a contra order in response to an order. (Id., at p. 18, ¶¶ 244 and 251). The method further comprises receiving through the graphical user interface from the market maker a selection of at least one of the plurality of variables and operators to define the rule. The rule comprises at least one condition for automatically generating the contra order. (Id., at p. 18, ¶ 244, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Figs. 58 and 59). The at least one condition allows matching based on at least one characteristic describing the order. (Id., at p. 18, ¶¶ 244 and 251, p. 19, ¶ 258, p. 21, ¶¶ 299-308, and Figs. 59-61). The characteristic is selected from a group comprising market capitalization, without revealing a security symbol in the order to the market maker. (Id., at p. 20, ¶ 279, and Figs. 59-61). The method further includes automatically generating the contra order, if the rule is satisfied. (Id., at p. 18, ¶¶ 244 and 251).

Claim 20 recites a system for establishing a rule to respond to order flow. (Id., at p. 17, ¶ 239). The system comprises: a processor and a memory operatively connected to the processor. (Id., at Fig. 1). The memory stores an order, a plurality of variables and operators, and instructions. The instructions are operable with the processor to cause the processor to provide to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule, with no symbols specified, for automatically generating a contra order in response to an order. (Id., at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Fig. 58 and 59). The instructions are further operative with the processor to receive through the graphical

user interface a selection from the market maker of at least one of the plurality of variables and operators to define the rule. The rule comprises at least one condition. (*Id.*, at p. 18, ¶ 244, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Fig. 58 and 59). The at least one condition is for automatically generating the contra order based on at least one characteristic describing the order. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 19, ¶ 258, p. 21, ¶¶ 299-308, and Figs. 59-61). The characteristic is selected from a group comprising market capitalization. (*Id.*, at p. 20, ¶ 279, and Figs. 59-61). The instructions are further operative with the processor to automatically generate the contra order, if the rule is satisfied. (*Id.*, at p. 18, ¶¶ 244 and 251).

Claim 25 recites a method of establishing a rule to respond to an order in a securities trading system. (*Id.*, at p. 17, ¶ 239). The method comprises storing a plurality of variables and operators. The method further comprises providing to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule for automatically generating a contra order in response to an order. The method further comprises receiving through the graphical user interface from the market maker a selection of at least one of the plurality of variables and operators to define the rule. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶ 299, 310, and Fig. 58 and 59). The rule describes the order and comprises a characteristic being selected from a group comprising market capitalization. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299-308, and Figs. 58-61). The rule allows matching based on a security in the order being in a security list specified by the market maker. (*Id.*, at p. 19, ¶¶ 255). The method further comprises automatically generating the contra order, if the rule is satisfied. (*Id.*, at p. 18, ¶¶ 244 and 251).

Claim 26 recites a system for establishing a rule to respond to an order. (*Id.*, at p. 17, ¶ 239). The system comprises means for storing a plurality of variables and operators. The system further comprises means for providing to a market maker a graphical user interface accessing the plurality of variables and operators to establish a rule for automatically generating a contra order in response to an order. The system further comprises for receiving through the graphical user interface from the market maker a selection of at least one of the plurality of variables and operators to create the rule. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299 and 310, and Fig. 58 and 59). The rule describes the order and comprises a characteristic being selected

from a group comprising market capitalization. (*Id.*, at p. 18, ¶¶ 244 and 251, p. 20, ¶ 279, p. 21, ¶¶ 299-308, and Figs. 58-61). The rule allows matching based on a security in the order being in a security list specified by the market maker. (*Id.*, at p. 19, ¶ 255). The system further comprises means for automatically generating the contra order, if the rule is satisfied. (*Id.*, at p. 18, ¶¶ 244 and 251).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

- A. Whether claims 1-27 and 136-141 are patentable under 35 U.S.C. § 103(a) as being obvious over Nieboer (Section IX, Evidence Appendix, Tab C) in view of Ojha (Section IX, Evidence Appendix, Tab D) and further in view of Patel (Section IX, Evidence Appendix, Tab E).
- B. Whether claims 137 and 139-141 are patentable under 35 U.S.C. 103(3) as being obvious over Nieboer in view of Ojha and further in view of Patel and still further in view of Santoli (Section IX, Evidence Appendix, Tab F).

VII. ARGUMENT

Claims 1-26, 136-141 stand finally rejected under 35 USC § 103(a). As set forth below, the Office has not met its burden to support these rejections and, accordingly, the rejections should be reversed and this application should be passed to allowance.

- A. Claims 1-26, 136 and 138 are not obvious over Nieboer in view of Ojha and further in view of Patel, and the rejection under 35 U.S.C. § 103(a) should be reversed.**

Claims 1-26 and 138 stand rejected under 35 U.S.C. § 103(a). 35 U.S.C. § 103(a) provides, in pertinent part:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

The factual inquiries relevant to establishing obviousness under 35 U.S.C. § 103(a) are set forth in Graham v. John Deere Co., 383 U.S. 1 (1966):

- (1) Determining the scope and contents of the art being cited.
- (2) Ascertaining the differences between the referenced art and the claims at issue.
- (3) Resolving the level of ordinary skill in the pertinent art.
- (4) Considering objective evidence present in the application indicating obviousness or nonobviousness.

The Office, in its *Examination Guidelines for Determining Obviousness Under U.S.C. § 103* in View of the Supreme Court Decision in *KSR International Co. v Teleflex Inc.*, 72 Fed. Reg. 57526, 57529 (Oct. 10, 2007), stated” “It can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed invention does.” See also May 3, 2007 PTO Memorandum, at p. 2 (“[I]n formulating a rejection under U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.”).

1. Scope and contents of the cited art.

a. Nieboer

Nieboer discloses an apparatus and method for buying and selling securities where the offer to purchase or sell a security may be conditioned upon certain factors. (Nieboer at Abstract, Section IX, Evidence Appendix, Tab C). Nieboer discloses matching buy and sell orders to effect execution of the transactions without violating conditions set by the subscribers. (Id., at Abstract and col. 15, line 65 – col. 16, line 7). The conditions set by the Nieboer’s subscribers are essentially limitations which are considered for purposes of matching orders. (Id., at col. 2, lines 27-65). Nieboer does not teach or suggest establishing a rule for a marketmaker for automatically generating a contra order. Nor does Nieboer disclose such

automatic generation of the contra order in response to the order, if the rule is satisfied. Further, Nieboer neither teaches nor suggests using any rule in which no security symbols are specified.

b. Ojha

Ojha relates to an Internet marketplace for sellers to offer a plurality of products for sale. (Ojha at Abstract and col. 2, line 47 – col. 3, line 5, Section IX, Evidence Appendix, Tab C). The method and apparatus of Ojha enables a buyer to place a bid on specific products from a seller or sellers. (*Id.*, at col. 11, lines 5-18). The buyer's bid is made available to the seller(s), and the seller(s) may either accept the bid or provide a counteroffer. (*Id.*, at Figs. 13a-13k and col. 11, lines 14-22). Ojha states:

“Any bid responses from any sellers show up in the buyer's private interface. ... If the seller's response is an acceptance of the buyer's bid, the buyer is enabled to complete the transaction if he so chooses. ... If, on the other hand, the seller's response is a counteroffer, the buyer may continue the negotiation in the manner described above until a mutually acceptable price is reached, or until the buyer or seller terminates the negotiation.” (Ojha at col. 4, lines 17-27, Section IX, Evidence Appendix, Tab C).

In other words, Ojha enables a private negotiation between a buyer and seller(s) that begins with the buyer's initial bid less than the seller's ask price.

Ojha discloses rules which sellers may establish to automatically respond (e.g. generate a counteroffer) to bids that are lower than the asking price of a product. The rules enable acceptance of bids and price reductions based on various criteria. Ojha does not, however, disclose any rule that results in generation of a contra order.

Unlike a contra order of Appellant's system, which is available to be executed against any other order by any trader in the marketplace (Specification at ¶¶ 239, 258-259, and 275, Section IX, Evidence Appendix, Tab B), the counteroffer of Ojha is tied to and dependent upon the original product listing made by a seller. Further, the counteroffer of Ojha is available to only one buyer in the marketplace – the buyer who made the bid on which the counteroffer is based. (Ojha at col. 6-51 and Fig. 14, Section IX, Evidence Appendix, Tab C).

c. Patel

The Patel reference is an abstract for an article published January 29, 2000 in the Financial Times. The Abstract reads in its entirety:

“Before you invest, investigate,” declares an advert for an online trading site. It is one of the most important pieces of advice, yet often neglected by online traders, even though a host of ever user-friendly web sites make equity research not only simpler and quicker, but also (dare I hope) fun.

Fundamental analysis is probably best started using a stock screen. Online stock screens allow the user to enter certain criteria, such as price-earnings (p/e) ratio below 20, revenue growth of 20 per cent, market capitalizations greater than £100m. The site then provides a list of stocks matching the criteria. This can then be a starting point for more detailed equity research.

For fundamental analysis, sites offering summaries of company accounts are a must. I use E*Trade (www.etrade.co.uk), UK invest or DLJ Direct (www.dljdirect.co.uk).

The abstract discloses the use of market capitalization as a basis for equity research. The abstract further discloses that such research is a “starting point for more detailed equity research.”

2. The differences between the cited art and the claims at issue.

As presently presented, claim 1 is directed to a method for responding to order flow in a securities trading system. The method of claim 1 calls for:

“establishing ... *a rule for automatically generating a contra order* in response to an order ... [the rule comprising a characteristic being selected from *a group comprising market capitalization*;

...

automatically generating the contra order in response to the order, if the rule is satisfied; ...” (emphasis added).

Claim 7 is directed to a system for responding to a financial order. The system of claim 7 calls for a processor to perform:

establishing ... *a rule for automatically generating a contra order* in response to an order, the rule [comprising a] ... characteristic being selected from *a group comprising market capitalization*;

...

automatically generating the contra order in response to the order, if the rule is satisfied; ...” (emphasis added).

Claim 13 pertains to a method of responding to order flow in a securities trading system. The method calls for:

“establishing ... *a rule ... for automatically generating a contra order in response to an order* in a securities trading system, the rule comprising at least one characteristic describing the order, the characteristic being selected from *a group comprising market capitalization*;

...

automatically generating by the securities trading system *the contra order in response to the order*, the contra order comprising an offer price and an offer size, if the rule is satisfied; ...” (emphasis added).

Claim 14 pertains to a system for responding to order flow. The system of claim 14 calls for:

means for establishing ... [a rule for] *automatically generating a contra order in response to an order*, the rule comprising at least one characteristic ... being selected from *a group comprising market capitalization*;

...

means for *automatically generating the contra order in response to the order*, ...” (emphasis added).

Claim 15 is directed to a method of establishing a rule to respond to an order in a securities trading system. The method of claim 15 calls for:

“providing to a market maker a graphical user interface accessing the plurality of variables and operators to define *a rule ... for automatically generating a contra order in response to an order*;
... [the rule comprising a] characteristic being selected from *a group comprising market capitalization ...* and
automatically generating the contra order, if the rule is satisfied.”
(emphasis added).

Claim 20 pertains to a system for establishing a rule to respond to order flow. The system of claim 20 calls for a processor to perform:

“providing to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule ... *for automatically generating a contra order in response to an order*;
... [the rule comprising at least one] characteristic being selected from *a group comprising market capitalization*; and
automatically generating the contra order, if the rule is satisfied.”
(emphasis added).

Claim 25 pertains to a method of establishing a rule to respond to an order in a securities trading system. The method of claim 25 comprises:

“providing to a market maker a graphical user interface accessing the plurality of variables and operators to define *a rule for automatically generating a contra order in response to an order*;
... the rule comprising a characteristic being selected from *a group comprising market capitalization ...* and
automatically generating the contra order, if the rule is satisfied.”
(emphasis added).

Claim 26 is directed to a system for establishing a rule to respond to an order. The system of claim 26 comprises:

means for providing to a market maker a graphical user interface accessing the plurality of variables and operators to establish a rule for *automatically generating a contra order in response to an order*;

... the rule comprising a characteristic being selected from a group comprising market capitalization ... and
means for *automatically generating the contra order*, if the rule is satisfied. (emphasis added).

As presently presented, all of the independent claims, specifically claims 1, 7, 13, 14, 15, 20, 25, and 26, have certain elements in common. Each independent claim comprises the following common elements:

- 1) a rule for automatically generating a contra order in response to an order;
- 2) automatically generating the contra order in response to the order; and
- 3) the rule comprising “at least one characteristic describing the order” where the characteristic is “selected from a group comprising market capitalization.”

a. The Office fails to make a prima facie case of obviousness

MPEP §2143.03 sets forth the standard for establishing a prima facie case of obviousness. MPEP §2143.03 reads:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) . . . If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

None of the references cited by the Office teach or suggest a rule for automatically generating a contra order in response to an order. While Nieboer discloses generating an order and using criteria for listing and matching generated orders, Nieboer is completely silent on any type of automatic generation of contra orders based on rules. On the other hand, Ojha discloses rules for automatically generating counteroffers (not contra orders) in response to bids (not orders). As disclosed by Ojha, a bid is an amount submitted for a specific product by a potential buyer to one or more seller(s) and not to the marketplace at large. The bids and counteroffers disclosed by Ojha form a private negotiation between a buyer and one or more seller(s) to negotiate a sale. The bids and counteroffers of Ojha are completely inconsistent with

Appellants' orders and contra orders which are not only accessible to all traders, but also executable by any trader once the contra order is posted.

In Ojha, a counteroffer is tied to and dependent upon the original offer (i.e., same merchandise to be sold, but at a different price). A counteroffer, as disclosed by Ojha, is only executable by the buyer involved in the specific private negotiation. In contrast, a contra order of Appellants' invention is available to all traders, not just a particular buyer, such as posting contra orders in a limit order book, and can be traded (i.e. bought/sold) without executing the original order. (Specification at ¶¶ 239 and 275, Section IX, Evidence Appendix, Tab B). By way of example, Figure 49 in Appellant's system shows a trader entering an order. Figure 49 further shows two market makers generating responses. Each of these market maker responses (i.e., contra orders) can be executed by any trader or used by the system to be combined with any other order to create an implied order (Specification at ¶¶ 239, 258-259 and 275, Section IX, Evidence Appendix, Tab B),

Further, none of the references cited by the Office teach or suggest automatically generating the contra order in response to the order. Again, while Nieboer discloses generating an order, such generation is not performed based on any rule. Nor is such order generation performed automatically in response to an order. Ojha simply provides no disclosure of contra order generation at all, automatic or otherwise.

Accordingly, the Office has failed to establish a prima facie case of obviousness as set forth in MPEP §2143.03.

b. The Office relies on a reference that teaches away from Appellants' invention

A prima facie case of obviousness further requires that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." M.P.E.P. § 2141.02(VI).

The Office admits that neither Nieboer nor Ojha disclose a rule comprising at least one characteristic describing the order where the characteristic is selected from a group comprising

market capitalization. (Final Office Action of 7/9/2009 at page 4, lines 15-16, Section IX, Evidence Appendix, Tab A) The office relies on Patel, its tertiary reference, for disclosure of such a rule. Specifically, the Office states:

“Patel teaches the concept of establishing a rule for automatically generating a list of securities in response to inputs entered by a user, the rule with no symbol specified comprising at least one condition, the at least one condition allowing matching based on at least one characteristic describing the criteria, the characteristic being selected from a group comprising market capitalization.” (Id., at p. 4, l. 15-16, emphasis added).

Appellants disagree with the Office’s position with respect to the teaching of Patel. While Patel clearly teaches that one could use market capitalization as an initial criteria for selecting equity stock to investigate, the Office has tried to force the Patel reference to fit the language of Appellants’ claims. Specifically, the Office uses the word “matching” as recited in Appellants’ claims, but the “matching” described by Patel is far different than the “matching” performed by the present invention.

Patel matches the rule of an interactive stock screen to data associated with various equity securities and generates a list of stocks one might be interested in researching. In Appellants’ disclosed system and method, the trading system matches buy and sell orders which may be executed against each other. The Office apparently recognized this difference between the reference and Appellants’ disclosure as evidenced by the fact that the Office changed the word “order” as used in Appellants’ claims to the word “criteria.” The Office swapped “order” for “criteria” because in the context of Patel’s disclosure, the word “order” would make no sense.¹

Appellants further note that Patel, on its face, is inapplicable to Appellants’ claims because Patel teaches away from the use of market capitalization to match buy/sell orders. Specifically, as disclosed and claimed, Appellants’ system and method results in acceptance/execution of the orders upon matching. Patel specifically states that the described use of market capitalization is merely “a starting point for more detailed equity research.”

¹ The rejection by the Office closely tracks claim 1 except for references to orders. Patel has no disclosure of orders and teaches away from executing any trades based on the disclosed list by advocating further research.

Clearly, Patel did not teach that market capitalization should be used as a characteristic to match orders in a system which provides for automatic acceptance/execution.

Accordingly, Appellants submit that the Office fails to establish a prima facie case of obviousness. Simply put, a person having ordinary skill in the art at the relevant time would have had no motivation to combine Nieboer (an securities trading system) with Ojha (a product sales/negotiation system) and Patel (an article teaching that market capitalization should be used as a starting point in equities research).

None of the cited references teach or suggest using market capitalization as a characteristic in a rule for automatically generating a contra order. Patel is the only reference that discloses using market capitalization for any purpose, and the purpose suggested by Patel is not analogous to the present application. In fact, Patel specifically teaches away from using market capitalization in the manner claimed by the present Application.

B. Claims 137 and 139-141 are not obvious over Nieboer in view of Ojha and further in view of Patel and still further in view of Santoli, and the rejection under 35 U.S.C. § 103(a) should be reversed.

Claims 137 and 139-141 stand rejected under 35 U.S.C. § 103(a). 35 U.S.C. § 103(a) provides, in pertinent part:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

The factual inquiries relevant to establishing obviousness under 35 U.S.C. § 103(a) are set forth in Graham v. John Deere Co., 383 U.S. 1 (1966):

- (1) Determining the scope and contents of the art being cited.
- (2) Ascertaining the differences between the referenced art and the claims at issue.
- (3) Resolving the level of ordinary skill in the pertinent art.
- (4) Considering objective evidence present in the application indicating obviousness or nonobviousness.

MPEP §2143.03 sets forth the standard for establishing a *prima facie* case of obviousness. MPEP §2143.03 reads:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) . . . If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

1. Scope and contents of Santoli.

The Office relies on the Santoli reference as disclosing the concept of phantom bids or implied orders. In fact, Santoli provides no disclosure of phantom orders or implied orders as disclosed and claimed by Appellants. Santoli's disclosure of "phantom bids" is provided in a very specific context that is inapplicable to appellants' claims. Specifically, Santoli discloses that phantom bids are offers "which appear better than the dominant market's but are backed by scant willingness to truly trade at those prices in any significant size." (Santoli at ¶5, Section IX, Evidence Appendix, Tab F).

The "phantom bids" disclosed by Santoli are essentially a scheme to attract investors to a particular exchange using an enticing offer on certain high-profile securities. Investors investigating the offer are drawn to the exchange only to find that the trading quantities for the security are too low to be significant. The scheme is designed to bring investors to the exchange in hopes that the investors will use the exchange for other trades once they are there. The

“phantom bids” described by Santoli are similar to retail stores which attract buyers by offering a sale on high-profile items, but significantly limiting available quantities of the item.

2. The differences between the cited art and the claims at issue.

Unlike the “phantom bids” of Santoli, the implied orders or phantom orders of Appellants’ disclosure are a mechanism for combining multi-orders into one order for execution (Specification at ¶106 and 258-259, Section IX, Evidence Appendix, Tab B). Appellants’ specification discloses the following example which is directly on point:

“Likewise, a limit order to sell IBM and buy HON, and a limit order to sell HON and buy CSCO may create an "implied" limit order to sell IBM and buy CSCO, to which a marketmaker may respond, exactly as if the ‘implied’⁰ [sic] order were an actual entered barter order.” (Specification at ¶259, Section IX, Evidence Appendix, Tab B).

None of the references cited by the Office teach or suggest the implied or phantom orders disclosed and claimed by Appellants. Accordingly, the Office has failed to establish a prima facie case of obviousness as set forth in MPEP §2143.03.

In addition, as set forth above, Appellants contend that independent claim 1, 7, 13-15 and 25 are patentable over Nieboer in view of Ojha and further in view of Patel, and that they are in condition for allowance. Appellants further contend that dependent claims 137 and 139-141 are patentable for the same reasons as the independent claims from which they depend. Consequently, Appellants respectfully request the Board reverse the decision of the Examiner and allow claims 137 and 139-141.

D. Conclusion.

For the foregoing reasons, Appellant respectfully asserts that the case is now in a condition for allowance. Appellants contend that independent claims 1, 7, 13-15, 20, 25, and 26 are patentable over Nieboer in view of Ojha and further in view of Patel, and that they are in condition for allowance. Appellants also contend that independent claims 137 and 139-141 are

APPEAL BRIEF
Application No. 10/086,116
Docket No. 69174-5

patentable over Nieboer in view of Ojha and further in view of Patel and still further in view of Santoli, and that they are in condition for allowance. Further, Appellants contend that dependent claims 2-6, 8-12, 16-19, 21-24, and 136-141 are patentable for the same reasons as the independent claims from which they depend. Consequently, Appellants respectfully request the Board reverse the decision of the Office and allow claims 1-26 and 136-141.

Respectfully submitted,

Dated: October 30, 2009

By: /Robert R. Lech/
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VIII. CLAIMS APPENDIX

1. (previously presented) A method of responding to order flow in a securities trading system, the method comprising:

establishing for a market maker a rule for automatically generating a contra order in response to an order in a securities trading system, the rule, with no symbols specified, comprising at least one condition, the at least one condition allowing matching based on at least one characteristic describing the order, the characteristic being selected from a group comprising market capitalization;

receiving from a trader the order;

matching on the securities trading system the order to the rule;

automatically generating the contra order in response to the order, if the rule is satisfied;

and

providing the contra order for acceptance.

2. (previously presented) The method of claim 1 wherein the order further comprises an effective time range.

3. (previously presented) The method of claim 1 wherein:

the order comprises first and second securities; and

the group further comprises at least one of: identity of one of the first and second securities, delta between buy and sell prices of the first and second securities, relationship of SIC codes of the first and second securities, average daily trading volume of at least one of the first and second securities, and debit value of the bid/ask spread of the first and second securities.

4. (previously presented) The method of claim 3 wherein each of the conditions further comprises a mathematical operator and a value.

5. (previously presented) The method of claim 1 wherein the rule further comprises at least one pricing tier comprising an offer price for which the rule is satisfied and an offer size for which the rule is satisfied.

6. (previously presented) The method of claim 1 wherein the automatically generating comprises prompting an operator to provide a manual response.

7. (previously presented) A system for responding to a financial order, the system comprising:

a processor;

a memory operatively connected to the processor; the processor operative with control instructions stored in the memory to perform:

establishing for a market maker a rule for automatically generating a contra order in response to an order, the rule, with no symbols specified, comprising at least one condition, the at least one condition allowing matching based on at least one characteristic describing the order, the characteristic being selected from a group comprising market capitalization;

receiving from a trader the order;

matching the order to the rule;

automatically generating the contra order in response to the order, if the rule is satisfied; and

providing the contra order for acceptance.

8. (previously presented) The system of claim 7 wherein the order further comprises an effective time range.

9. (previously presented) The system of claim 7 wherein:

the order comprises first and second securities; and

the group further comprises at least one of: identity of one of the first and second securities, delta between buy and sell prices of the first and second securities, relationship of SIC codes of the first and second securities, average daily trading volume of at least one of the first and second securities, and debit value of the bid/ask spread of the first and second securities.

10. (previously presented) The system of claim 9 wherein each of the conditions further comprises a mathematical operator and a value.

11. (previously presented) The system of claim 7 wherein:

the rule further comprises at least one pricing tier comprising an offer price for which the rule is satisfied and an offer size for which the rule is satisfied.

12. (previously presented) The system of claim 7 wherein the automatically generating comprises prompting an operator to provide a manual response.

13. (previously presented) A method of responding to order flow in a securities trading system, the method comprising:

establishing for a market maker a rule, with no symbols specified, operating as a filter for automatically generating a contra order in response to an order in a securities trading system, the rule comprising at least one characteristic describing the order, the characteristic being selected from a group comprising market capitalization;

receiving from a trader the order;

automatically generating by the securities trading system the contra order in response to the order, the contra order comprising an offer price and an offer size, if the rule is satisfied; and

providing the contra order for acceptance.

14. (previously presented) A system for responding to order flow, the system comprising:

means for establishing for a market maker a rule, with no symbols specified, operating as a filter for automatically generating a contra order in response to an order, the rule comprising at least one characteristic describing the order, the characteristic being selected from a group comprising market capitalization;

means for receiving from a trader the order;

means for automatically generating the contra order in response to the order, the contra order comprising an offer price and an offer size, if the rule is satisfied; and

means for providing the contra order.

15. (previously presented) A method of establishing a rule to respond to an order in a securities trading system, the method comprising:

storing on a securities trading system a plurality of variables and operators;

providing to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule, with no symbols specified, for automatically generating a contra order in response to an order;

receiving through the graphical user interface from the market maker a selection of at least one of the plurality of variables and operators to define the rule, the rule comprising at least one condition for automatically generating the contra order, the at least one condition allowing matching based on at least one characteristic describing the order, the characteristic being selected from a group comprising market capitalization, without revealing a security symbol in the order to the market maker; and

automatically generating the contra order, if the rule is satisfied.

16. (previously presented) The method of claim 15 wherein the order further comprises an effective time range.

17. (previously presented) The method of claim 15 wherein the receiving comprises selecting at least one constraint to create the at least one condition.

18. (previously presented) The method of claim 15 wherein:

the order comprises first and second securities; and

the group further comprises at least one of: identity of one of the first and second securities, delta between buy and sell prices of the first and second securities, relationship between SIC codes of the first and second securities, average daily trading volume of at least one of the first and second securities, and debit value of the bid/ask spread of the first and second securities.

19. (previously presented) The method of claim 15 wherein the rule further comprises at least one pricing tier comprising an offer price for which the rule is satisfied and an offer size for which the rule is satisfied.

20. (previously presented) A system for establishing a rule to respond to order flow, comprising:

a processor;

a memory operatively connected to the processor and storing an order;

the memory storing a plurality of variables and operators, the memory further storing instructions operable with the processor to cause the processor to perform:

providing to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule, with no symbols specified, for automatically generating a contra order in response to an order;

receiving through the graphical user interface a selection from the market maker of at least one of the plurality of variables and operators to define the rule, the rule comprising at least one condition, the at least one condition for automatically generating the contra order based on at least one characteristic describing the order, the characteristic being selected from a group comprising market capitalization; and

automatically generating the contra order, if the rule is satisfied.

21. (previously presented) The system of claim 20 wherein the order further comprises a time range and a date range.

22. (previously presented) The system of claim 20 wherein the receiving comprises selecting at least one constraint to create the at least one condition.

23. (previously presented) The system of claim 22 wherein:

the order comprises first and second securities; and

the group further comprises at least one of: identity of one of the first and second securities, delta between buy and sell prices of the first and second securities and any other securities, relationship of SIC codes of the first and second securities, average daily trading volume of at least one of the first and second securities, and debit value of the bid/ask spread of the first and second securities.

24. (previously presented) The system of claim 20 wherein the rule further comprises at least one pricing tier comprising an offer price for which the rule is satisfied and an offer size for which the rule is satisfied.

25. (previously presented) A method of establishing a rule to respond to an order in a securities trading system, the method comprising:

storing a plurality of variables and operators;

providing to a market maker a graphical user interface accessing the plurality of variables and operators to define a rule for automatically generating a contra order in response to an order;

receiving through the graphical user interface from the market maker a selection of at least one of the plurality of variables and operators to define the rule, the rule describing the order, the rule comprising a characteristic being selected from a group comprising market capitalization, the rule allowing matching based on a security in the order being in a security list specified by the market maker; and

automatically generating the contra order, if the rule is satisfied.

26. (previously presented) A system for establishing a rule to respond to an order, the system comprising:

means for storing a plurality of variables and operators;

means for providing to a market maker a graphical user interface accessing the plurality of variables and operators to establish a rule for automatically generating a contra order in response to an order;

means for receiving through the graphical user interface from the market maker a selection of at least one of the plurality of variables and operators to create the rule, the rule describing the order, the rule comprising a characteristic being selected from a group comprising market capitalization, the rule allowing matching based on a security in the order being in a security list specified by the market maker; and

means for automatically generating the contra order, if the rule is satisfied.

27.-135. (cancelled).

136. (previously presented) The method of claim 1 or 13 wherein the contra order comprises a first security and a second security.

137. (previously presented) The method of claim 1 or 13 wherein the contra order is at least part of an implied order.

138. (previously presented) The system of claim 7 or 14 wherein the contra order comprises a first security and a second security.

139. (previously presented) The system of claim 7 or 14 wherein the contra order is at least part of an implied order.

140. (previously presented) The method of claim 1 or 13 wherein the automatically generating the contra order comprises responding to an implied order.

141. (previously presented) The method of claim 15 or 25 wherein the automatically generating the contra order comprises generating an implied order.

IX. EVIDENCE APPENDIX

Attached hereto are true and correct copies of the following evidence entered by the Office and relied upon by Appellants in this Appeal Brief. Citations to specific portions of these documents may be found in Appellants' Argument in section VII of this Appeal Brief.

- TAB A: July 9, 2009 Final Office Action
- TAB B: Specification as published in U.S. Pat. App. Publication 2003/0014351
- TAB C: U.S. Patent No. 6,418,419 issued to Nieboer, et al.
- TAB D: U.S. Patent No. 6,598,026 issued to Ojha et al.
- TAB E: Patel (Financial Times, January 29, 2000, p. 10)
- TAB F: Santoli (Barons, August 23, 1999, Vol. 79, Issue 34, page MW13)

APPEAL BRIEF
Application No. 10/086,116
Docket No. 69174-5

VIII. RELATED PROCEEDINGS APPENDIX

None.

TAB A



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,116	02/26/2002	Roy Neff	69174-5	2253
86318	7590	07/09/2009	EXAMINER	
Lech Law, LLC			AKINTOLA, OLABODE	
P.O. Box 3473			ART UNIT	PAPER NUMBER
Dublin, OH 43016			3691	
			MAIL DATE	DELIVERY MODE
			07/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/086,116	NEFF ET AL.	
	Examiner	Art Unit	
	OLABODE AKINTOLA	3691	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 08 June 2009.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-26 and 136-141 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-26 and 136-141 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>5/6/2009</u> .	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26, 136 and 138 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nieboer et al (USPN 6418419) in view of Ojha et al (USPN 6598026) and further in view of Patel (“Investigating is the best preparation: Researching equities online: Alpesh Patel avail yourself of the host of user friendly web sites there to help traders understand companies they invest in”; Financial Times. London (UK): January 29, 2000, pg 10).

Re claims 1, 7, 13 and 14: Nieboer discloses a method of responding to order flow, the method comprising: receiving from a trader an order; matching on the computer the order to the at least one condition comprising a rule (col. 2, lines 12-18; col. 3, lines 60-67); and automatically responding to the order in accordance with the at least one condition of the rule, if the at least one condition is satisfied, including generating a contra barter order that includes the contra order (col. 2, lines 12-18; col. 19, lines 1-20; see abstract).

Nieboer does not explicitly teach establishing for a market maker a rule for automatically responding to an order in a securities trading system, the rule, with no symbols specified,

Art Unit: 3691

comprising at least one condition, the at least one condition allowing matching based on at least one characteristic describing the order.

Ojha discloses the concept of generating for a seller (*market maker*) a rule for automatically responding to a bid (*order*), the rule, with no products (*symbols*) specified (see figs. 13D; “Buyer specific), including at least one condition for automatically generating a automatic response or contra offer such a discount (*contra order*), the at least one condition allowing matching based on buyer reputation (*at least one characteristic*); and providing the contra order for acceptance (see col. 7, lines 46-58, col. 15, lines 30 through col. 17, line 15; Figs. 13A-13K).

Nieboer however discloses that orders are sent and received from the NASDAQ market makers. Nieboer further discloses means for matching orders including if the condition are met, that two or more securities are tradable. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nieboer to include these features as taught by Ojha in order to automatically generate appropriate contra order according the rules defined by the market participant with or without the name or symbol of the security.

Nieboer and Ojha do not explicitly teach that the characteristic describing the order being selected from a group comprising market capitalization

Patel teaches the concept of establishing a rule for automatically generating a list of securities in response to inputs entered by a user, the rule with no symbol specified comprising at least one condition, the at least one condition allowing matching based on at least one characteristic describing the criteria, the characteristic being selected from a group comprising market capitalization (Abstract(Summary)). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nieboer and Ojha combination to include this concept

Art Unit: 3691

as taught by Patel so that matching can be based on a criteria such market capitalization, price-earning ratio, revenue growth, etc.

Re claims 2, 8 and 16: Nieboer discloses the order further includes an effective time range (col. 2, lines 1-5; col. 15, lines 50-65; col. 8, lines 29-54; col. 17, lines 25-67).

Re claims 3, 9, 18 and 23: Nieboer discloses wherein: the order includes first and second securities; and the group further comprises at least one of: identity of one of the first and second securities, delta between buy and sell prices of the first and second securities, relationship of SIC codes of at least one of the first and second securities, average daily trading volume of at least one of the first and second securities and debit value of the bid/ask spread of the first and second securities (col. 1, lines 42-65; col. 9, line 1 – col. 10, line 12).

Re claims 4 and 10: Nieboer discloses wherein each of the conditions further includes a mathematical operator and a value (col. 15, lines 1-10).

Re claims 5 and 11: Nieboer discloses wherein the rule further includes at least one pricing tier comprising an offer price range within which the rule is operative and an offer size value up to which the rule is operative (col. 8, lines 27-54); and if the rule is operative and if the at least one condition of the rule is satisfied, providing the contra order for the acceptance includes: if the order is a limit order, performing one of trading the order with at least one of a second order and contra order, (see fig. 8; col. 10, line 11-65), and posting the order request for consideration for

Art Unit: 3691

execution; if the order is a market order, trading the order with at least one of the second order and the contra order; and if the contra order is accepted, trading the order (see fig. 8; col. 10, lines 11-65).

Re claims 6 and 12: Nieboer discloses wherein the step of automatically responding includes prompting the operator to provide a manual response (col. 13, lines 1-40).

Re claims 15, 20, 25 and 26: see claims 1, 7, 13 and 14 analyses above.

Re claims 17 and 22: Nieboer discloses wherein receiving includes selecting at least one variable from the plurality of variables and operators, at least one operator from the plurality of variables and operators, and at least one constraint to form the at least one condition (see col. 17, table 1; col. 15, lines 1-45).

Re claims 19 and 24: Nieboer discloses wherein the rule further includes at least one pricing tier comprising an offer price range within which a rule is operative and an offer size value up to which a rule is operative (col. 11, lines 40-60).

Re claim 21: Nieboer discloses wherein: the order further includes a time and date range (col. 2, lines 1-5; col. 15, lines 50-65; col. 8, lines 29-54; col. 17, lines 25-67).

Art Unit: 3691

Re claims 136 and 138: Nieboer further discloses the method wherein the contra order includes a first security and a second security (col. 8, lines 29-54; col. 17, lines 25-67; col. 19, lines 1-20)

Claims 137 and 139-141 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nieboer in view of Ojha in view of Patel as applied to claims 1 or 13, and 7 or 14 above, and further in view of Santoli ("The Striking Price: Some Option", Barron's. New York, N.Y.: Aug 23, 1999. Vol. 79, Iss. 34' pg. MW13, Ipgs).

Re claims 137, 139, 140 and 141: Nieboer fails to explicitly disclose the method wherein the contra order is an implied order.

Santoli discloses the market makers posting phantom bids and offers (*implied orders*) (page 1 of 3, paragraph 6). Accordingly, it would have been obvious to one of ordinary skill in the art at time of the invention to modify the Nieboer and Ojha combination to include implied orders as taught by Santoli in order to respond to users' exact orders by generating implied order.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **OLABODE AKINTOLA** whose telephone number is (571)272-3629. The examiner can normally be reached on M-F 8:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached on 571-272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3691

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A./

Examiner, Art Unit 3691

/Hani M. Kazimi/

Primary Examiner, Art Unit 3691

TAB B



US 20030014351A1

(19) **United States**(12) **Patent Application Publication**

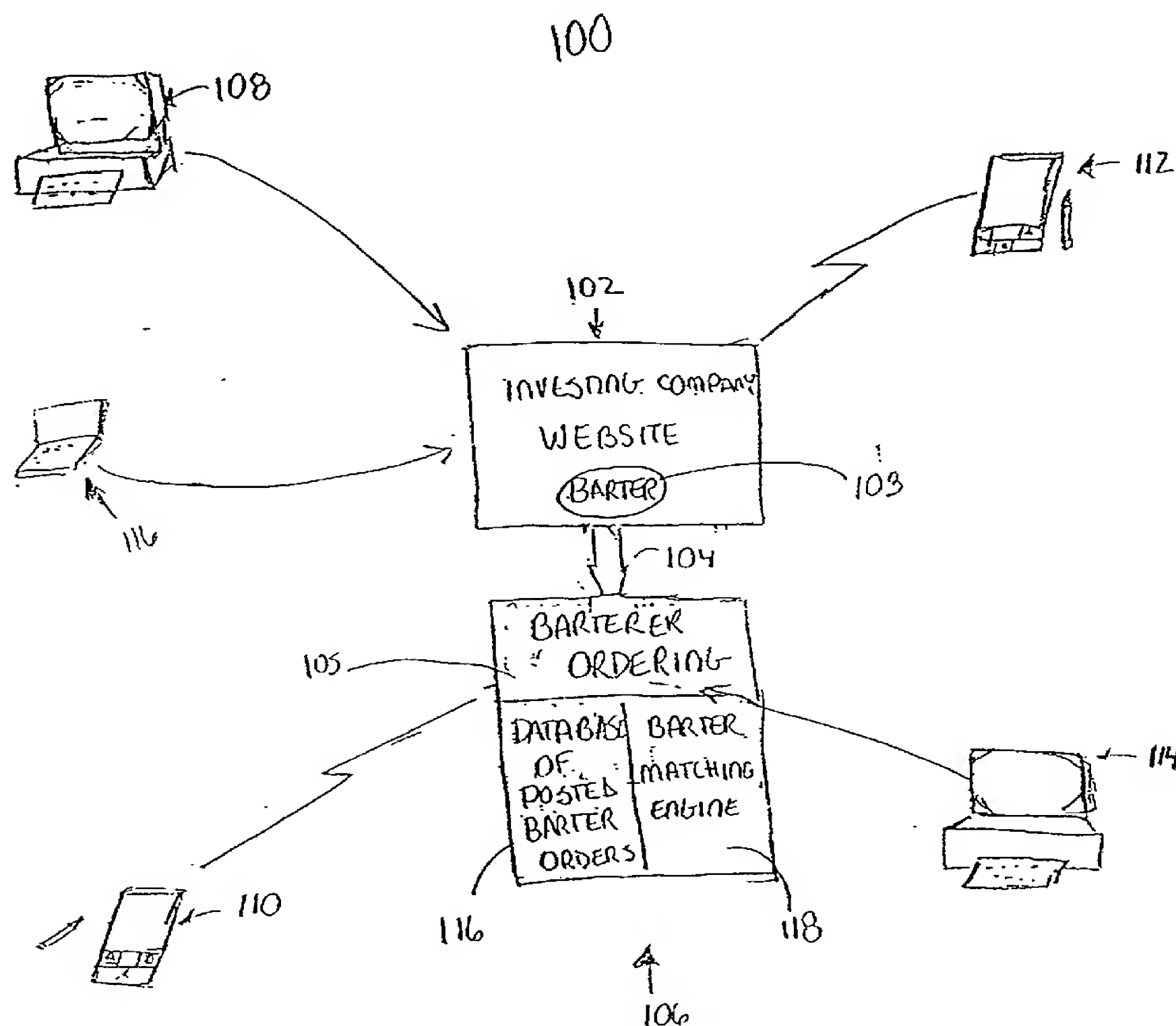
Neff et al.

(10) **Pub. No.: US 2003/0014351 A1**(43) **Pub. Date: Jan. 16, 2003**(54) **ELECTRONIC BARTERING SYSTEM WITH FACILITATING TOOLS**(76) Inventors: **Roy Neff**, King of Prussia, PA (US);
Richard Himmelstein, Kure Beach, NC (US)Correspondence Address:
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, NY 10154-0053 (US)(21) Appl. No.: **10/086,116**(22) Filed: **Feb. 26, 2002****Related U.S. Application Data**

(60) Provisional application No. 60/271,541, filed on Feb. 26, 2001.

Publication Classification(51) **Int. Cl.⁷ G06F 17/60**(52) **U.S. Cl. 705/37**(57) **ABSTRACT**

A bartering system implements barter between a plurality of parties each having one or more classes of items available for barter. Preferably, barter orders are created by designating a selected quantity of a first class of items to be bartered, designating a date range for transferring title of the first class items to be bartered, designating a barter value of the first class of items to be bartered, and designating a second class of items to be acquired. Barter orders are posted via the Internet to a barter database and may be displayed via the Internet. Posted barter orders whose first class of items match the second class of items of a barterer's order are preferably displayed. Posted barter orders from the display are selected to effectuate a barter transaction which combines a barterer's barter order with the selected posted order(s). Toolkits are provided for enabling parties, particularly marketmakers, to respond to barter orders in an automated manner. Marketmakers can use the marketmaker toolkits to populate a database, or order book, with barter orders, which can be traded against by traders. Other toolkits are provided for enabling traders to establish barter orders grouped in baskets based on market fundamentals and risk characteristics. Still other toolkits are provided for enabling retail traders to establish contingent barter orders, or barter orders that are only processed upon the occurrence of a specified condition.



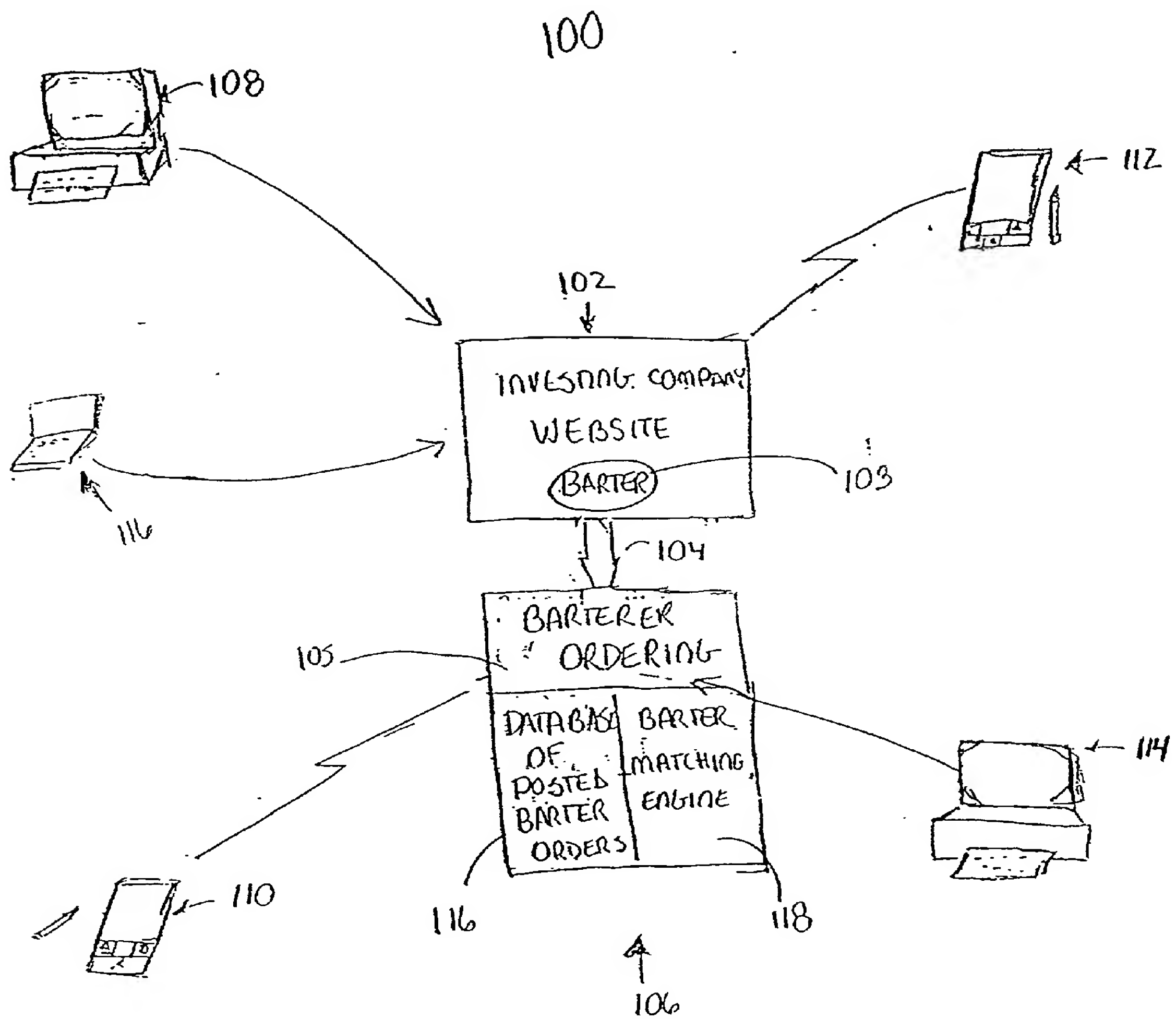


FIG 1

200

226

BARTERER ORDER				
HAVE	QTY	VALUE	WANT	VALUE
DD	45	20	AET	90

228 230 232 234 236

216

BARTER DATABASE					
TRANSACTION	HAVE	QTY	VALUE	WANT	VALUE
2221	AET	100	MKT	OMX	MKT 29 ← 204
4890	AET*	95	85	DD*	16 ← 206
6034	AET*	100	90	DD	MKT ← 208
5564	DD	300	19	AET	34 ← 210
9021	DD	110	MKT	RHAT	MKT ← 212
3152	OMX*	30	41	RHAT*	25 ← 214
1657	OMX*	35	45	DD	20 ← 216
3360	OMX*	40	MKT	RHAT	18 ← 218
8393	RHAT	50	19	AET	MKT ← 220
0077	RHAT*	20	18	AET	MKT ← 222
1779	RHAT	15	MKT	OMX	29 ← 224

FIG. 2

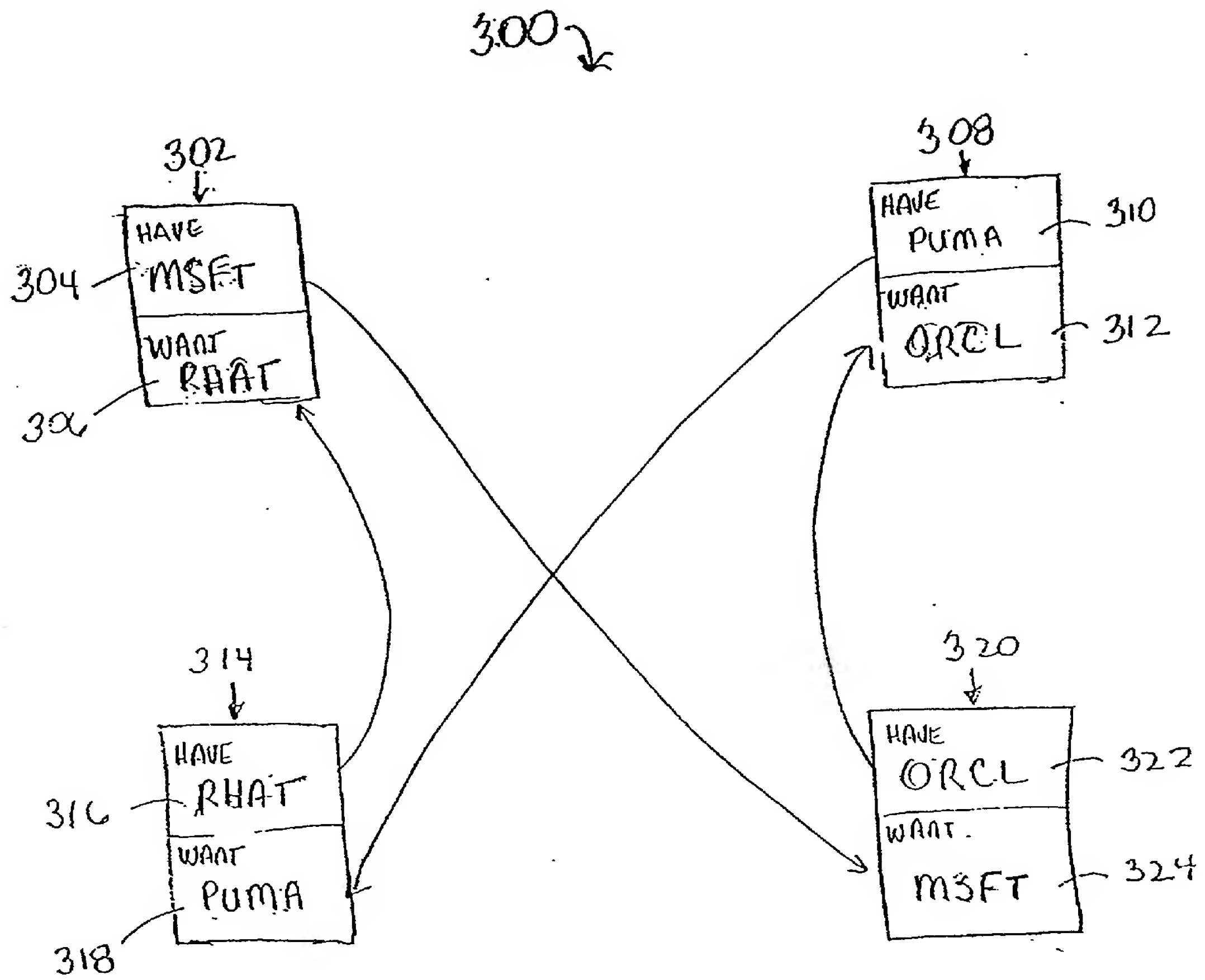


FIG. 3

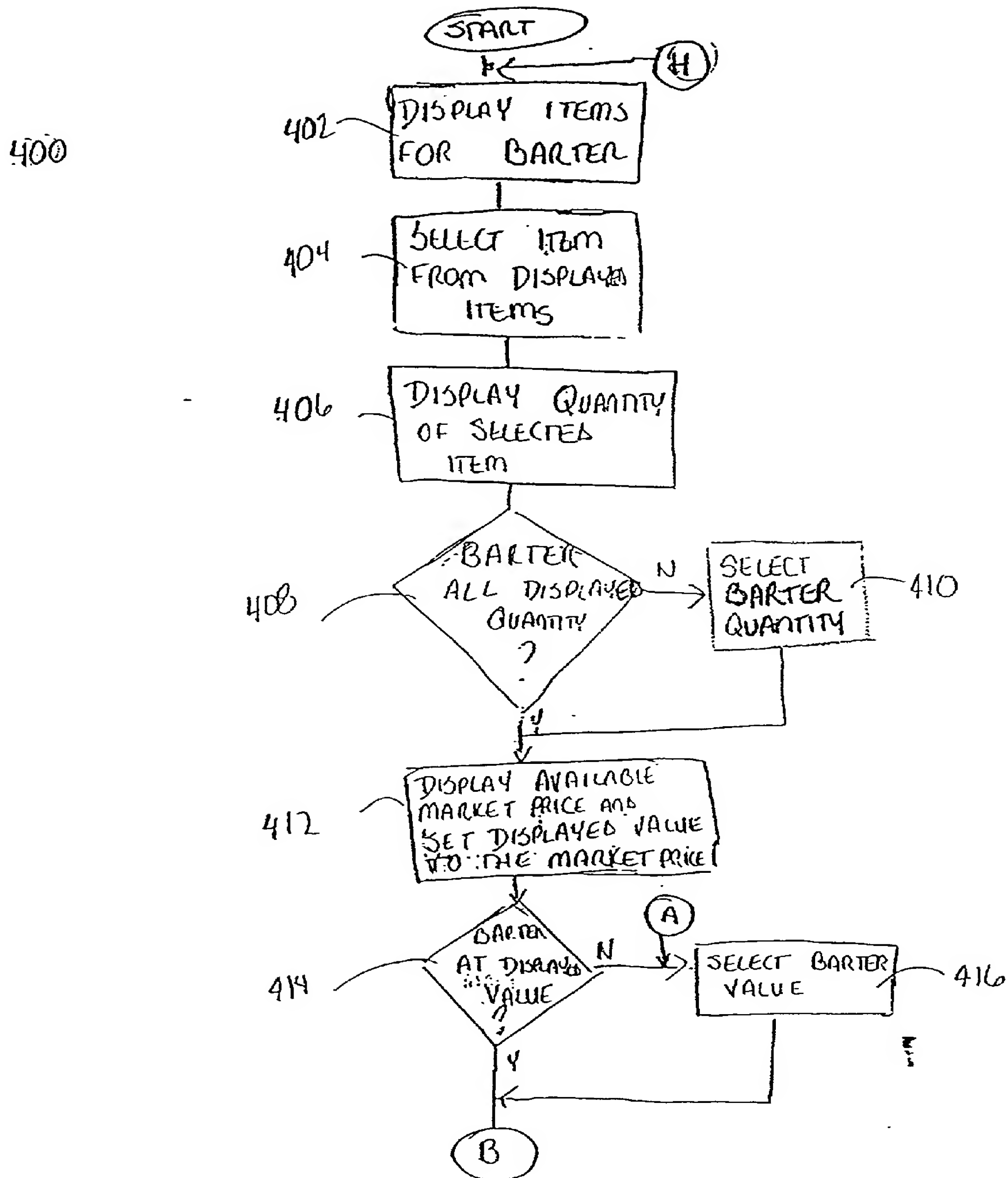


FIG. 4A

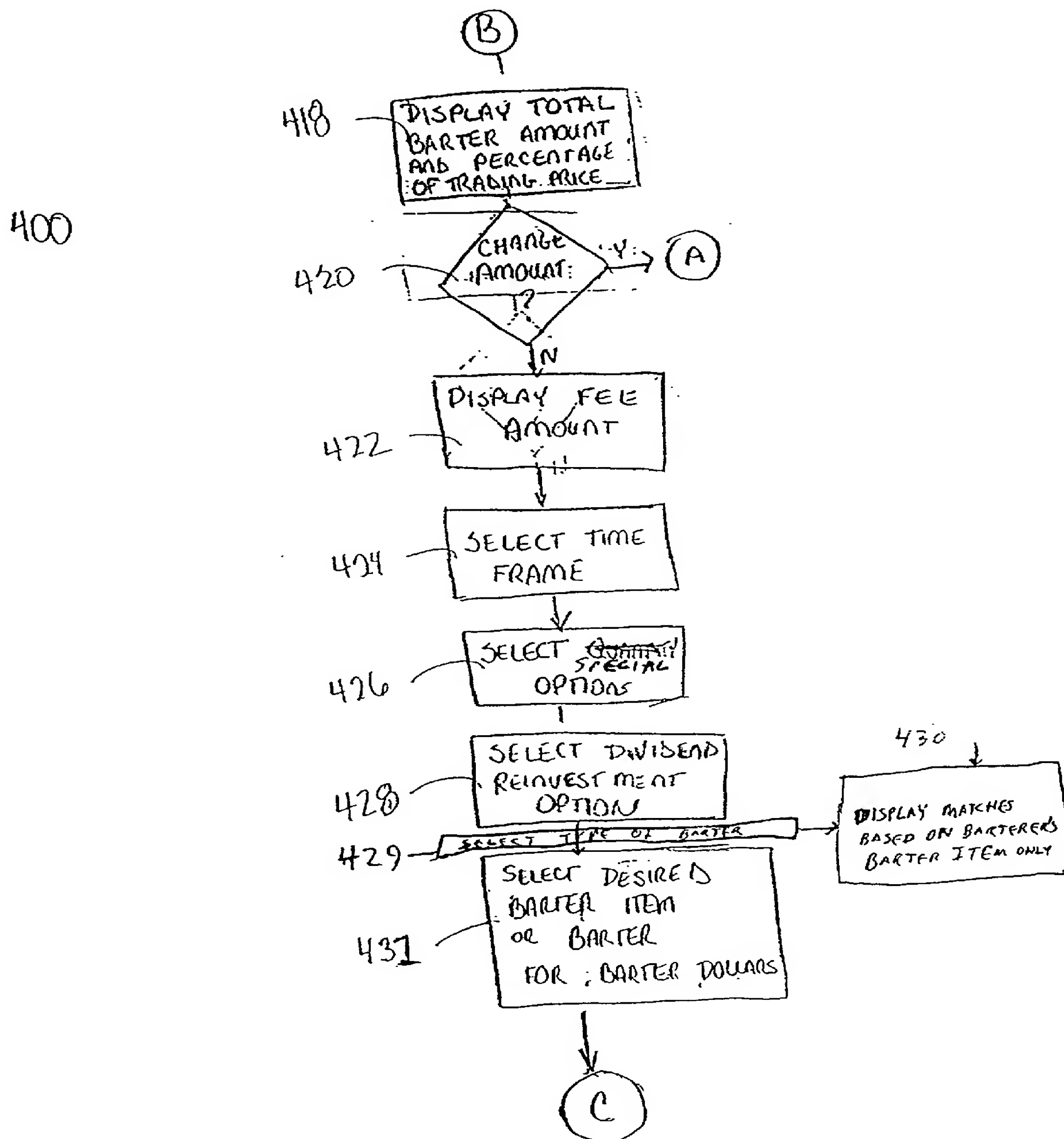
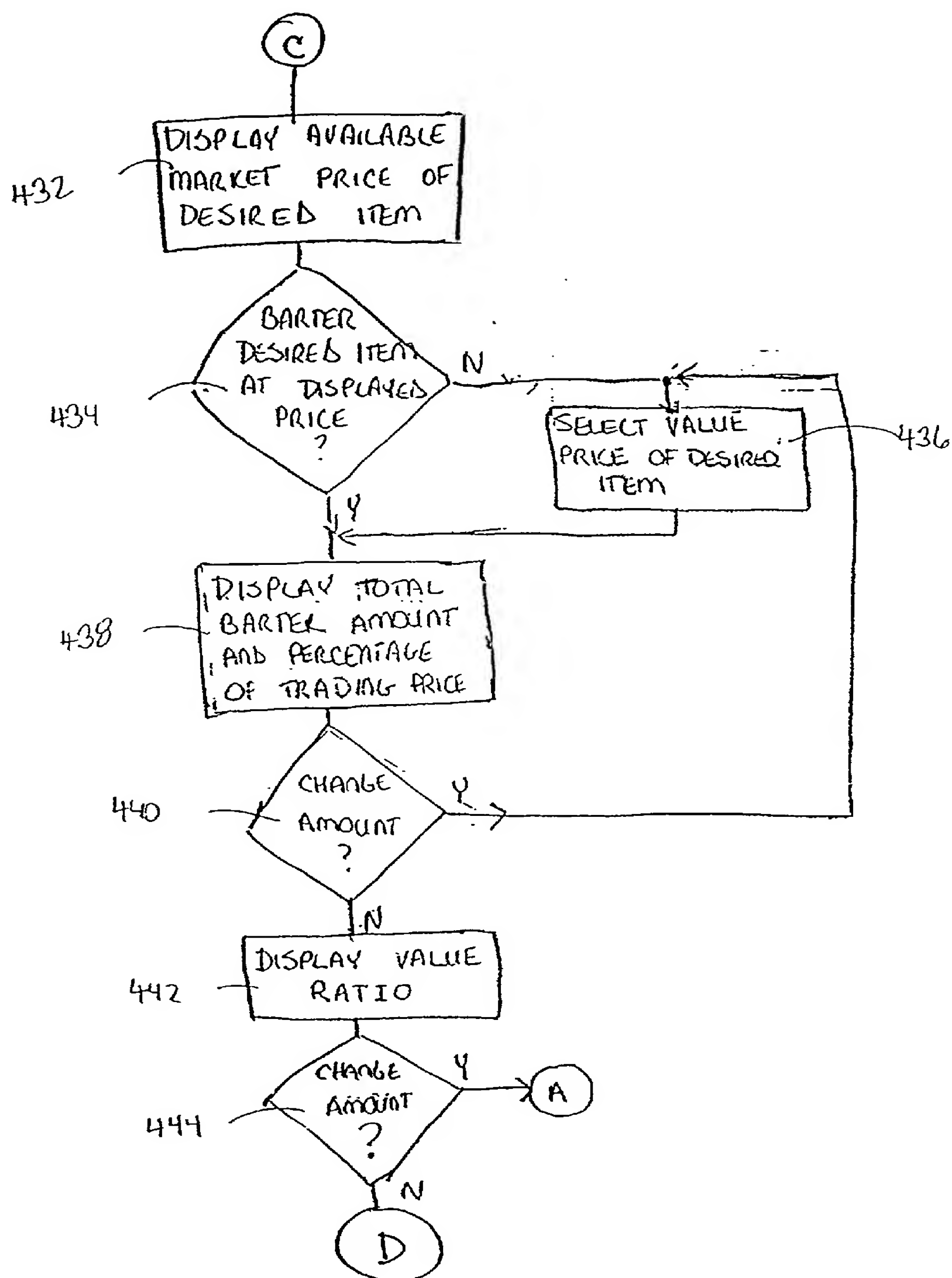
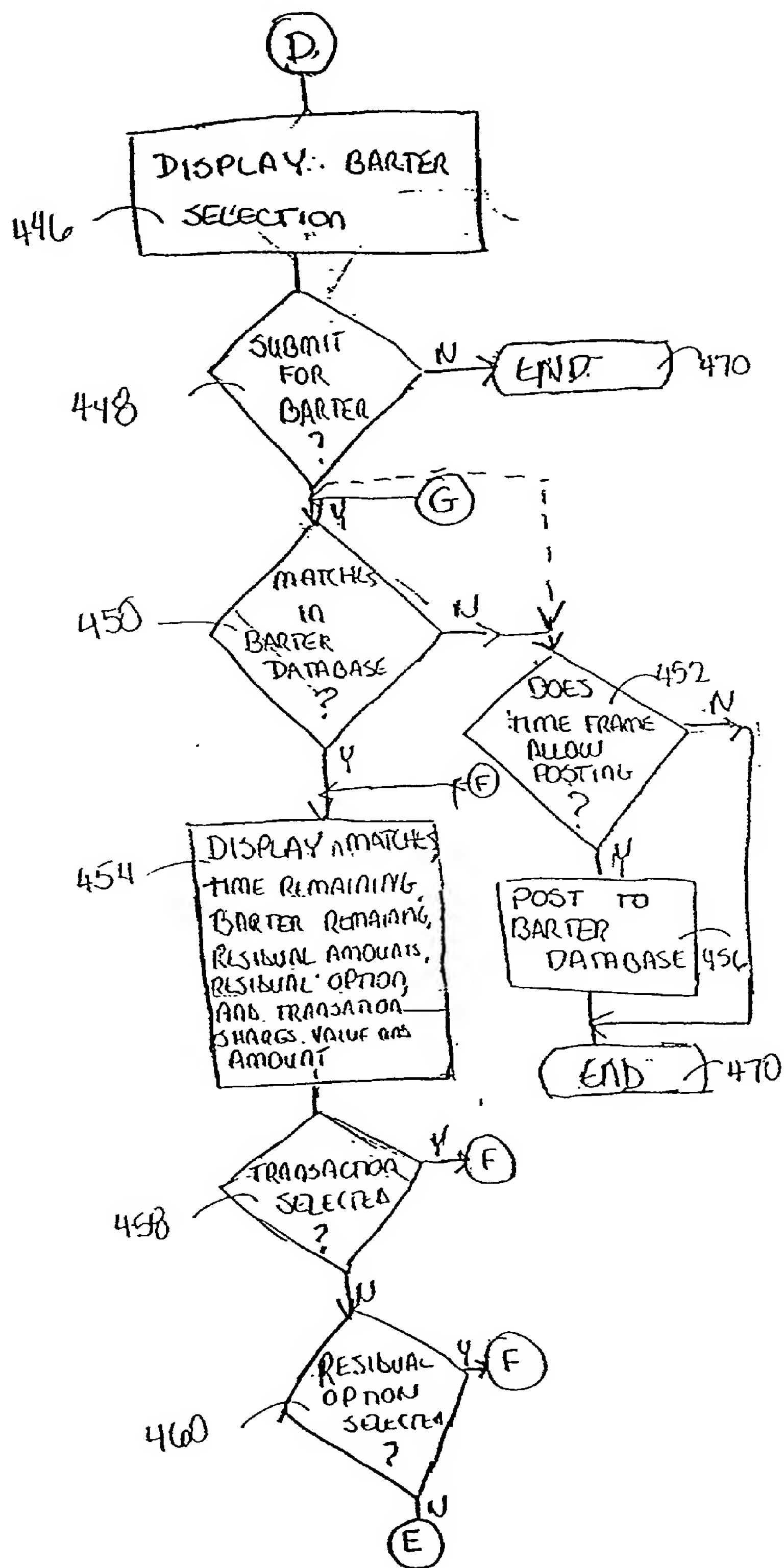


FIG. 4B

400



400



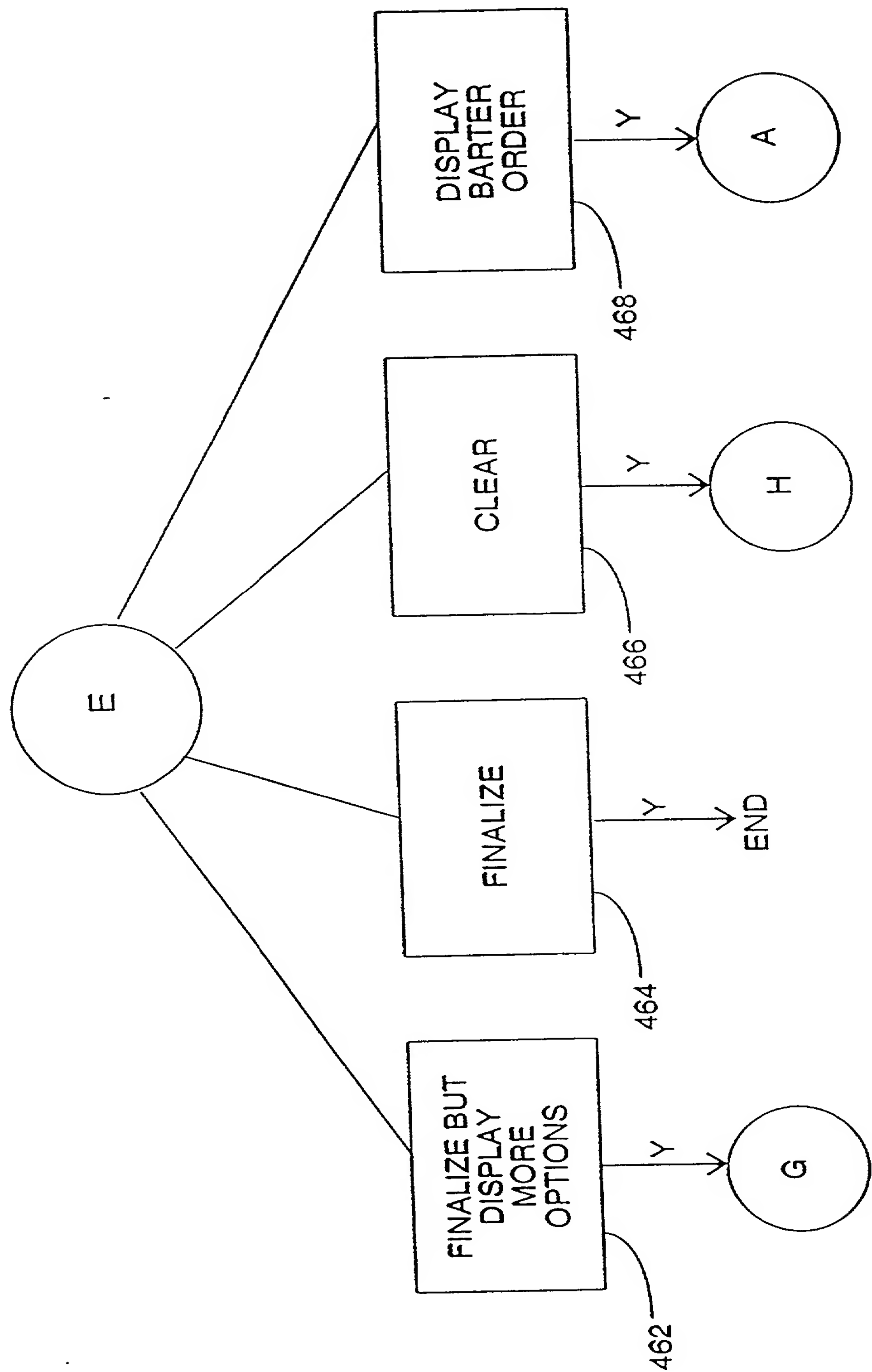


FIGURE 4E

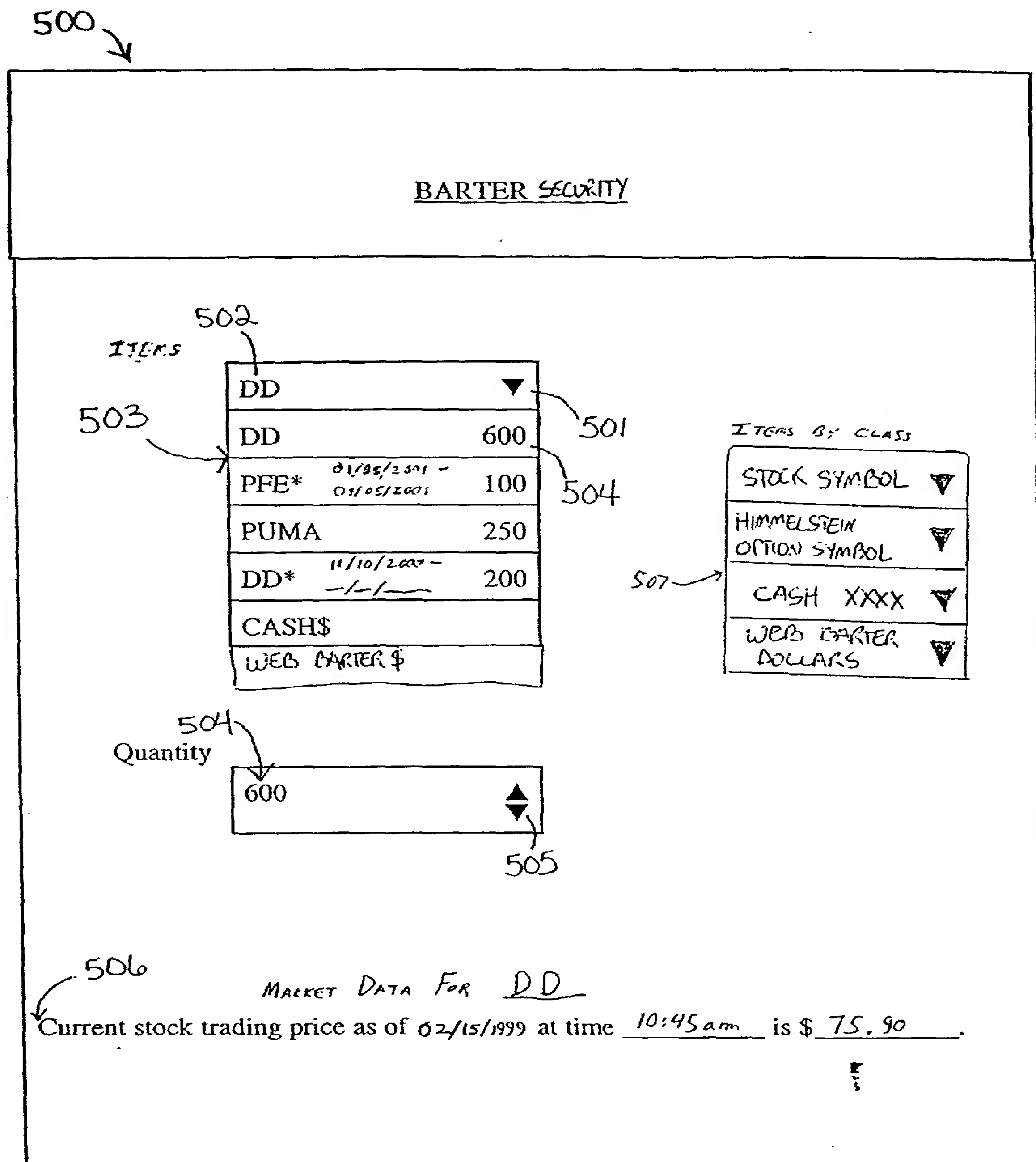


FIGURE 5A

508 Value

per share,
web barter dollars,
cash

OR

If stock or Himmelstein Option,
510 ☐ barter at current stock trading price

511

OR

512 ☐ plus
514 Value

OR

516 Percent

518 ☐ minus
Value

OR

519 Percent

520 → Total anticipated barter amount: _____
Note: Your value price is "X" percentage/dollar amount less/more than (or equal to) stock trading price.

522 523

FIGURE 5B

524 FEE AMOUNT per share is anticipated to be _____, if direct barter (total anticipated fee _____);

526 FEE AMOUNT per share is anticipated to be _____, if web barter (total anticipated fee _____);

528 → Timing

day only ▼
day only
good until canceled
fill or kill
immediate or cancel
only view current posts

530 Special Conditions (optional)

☐ minimum quantity

☐ do not reduce

☐ all or none

☐ deferred settlement date before _____ date after _____

531 ☐ Other security, if any, to be provided at settlement _____

FIGURE 5C

532 → Dividend Reinvestment (for new stock)

- ☐ yes, new stock must have a dividend reinvestment program
- ☐ no, new stock must not have had a dividend reinvestment program
- ☐ accept new stock with or without a dividend reinvestment program

534 → Type of Barter

- ☐ direct barter only (fee amount anticipated to be _____)
- ☐ if direct barter not available, then barter with web site (fee amount anticipated to be _____)

Desired Item

Security AET ▼

Industry Health Care ▼

535 →

536 →

- ☐ HIMMELSTEIN OPTION FOR STOCK
- 537 → ☐ STOCK
- ☐ Cash
- ☐ WEB BARTER DOLLARS

538 → Current stock trading price as of 04/15/1999 at time 10:45am 15 47.50 .

FIGURE 5D

540

Value per share

OR

541

☐ barter at current stock trading price
 IF STOCK OR HIMMELSTEIN OPTION,

☐ plus

Value

OR

Percent

☐ minus

Value

OR

Percent

FIGURE 5E

542→ Your total barter amount is (anticipated to be) _____ for new stock

Note: your value price is "X" percentage/dollar amount less/more than current
stock trading price.

544→ Note: Ratio of your stock to stock trading price divided by new stock to stock trading
price is "XX.XX"

546→ System will re-list order and list terms and conditions and ask if you want to continue
must click on the continue/agree icon

548→

549

FIGURE 5F

AVAILABLE BARTER ORDERS

Note: Click on Order # if choose to do barter

IF MORE THAN ONE SELECTION, CLICK ON SEQUENTIAL PREFERENCE

Order #	Symbol	Price trading price	Ratio to stock	Value Ratio	# of Shares	Barter Amount	Price Fluctuate with stock trading Price	Special Conditions	Timing	Dividend
1) 1000526	IBM	115	1.00	1.0200	120	\$13,800.00	Yes	None	1	Yes
2) 9843566	IBM	115 ^{1/16}	.9995	1.0194	40	\$4,602.50	No	Minimum 40	2	No
3) 1043442	IBM	115 ^{11/16}	.9941	1.0139	100	\$11,568.75	No	After 2/01/00 Before Indefinite Security at Settlement = 0	1	Yes
4)										

ORDER#	# OF SHARES GIVING	PRICE OF GIVING ITEM	# OF SHARES RECEIVING	PRICE OF RECEIVING ITEM	BARTER AMOUNT	AMOUNT OF BARTER LEFT	TIME REMAINING
1)							
2)							
3)							
4)							
5)							
6)							

RESIDUAL AMOUNT LEFT OVER

☐ HOLD IN ESCROW
☐ DONATE IT
☐ PURCHASE OTHER STOCK

CLEAR

CHANGE BARTER ORDER

FINALIZE TRANSACTION

FINALIZE TRANSACTION BUT DISPLAY MORE BARTER OPTIONS

FIG. 6

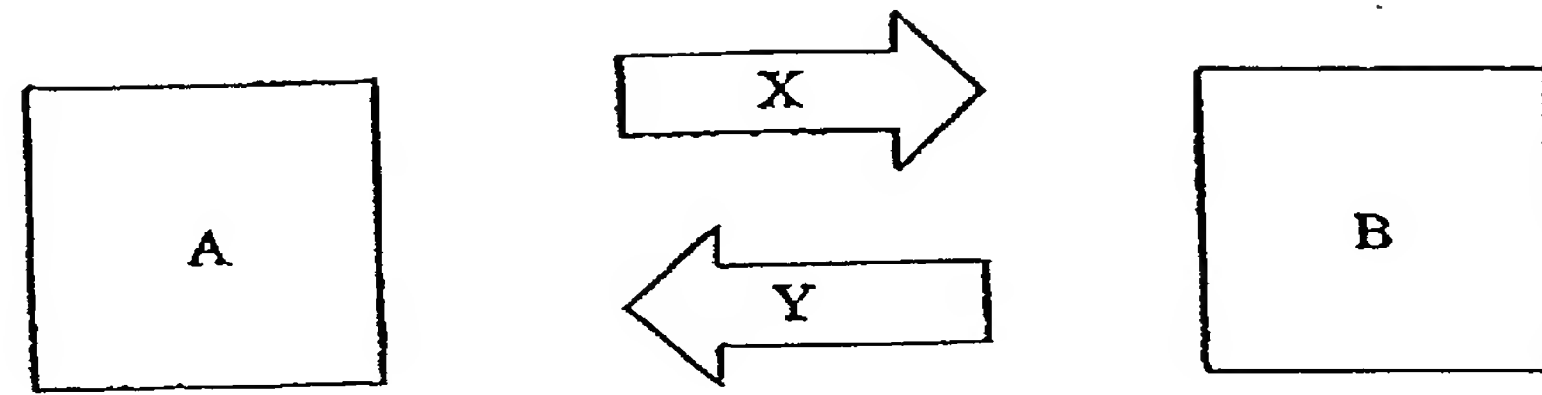


Fig. 7A

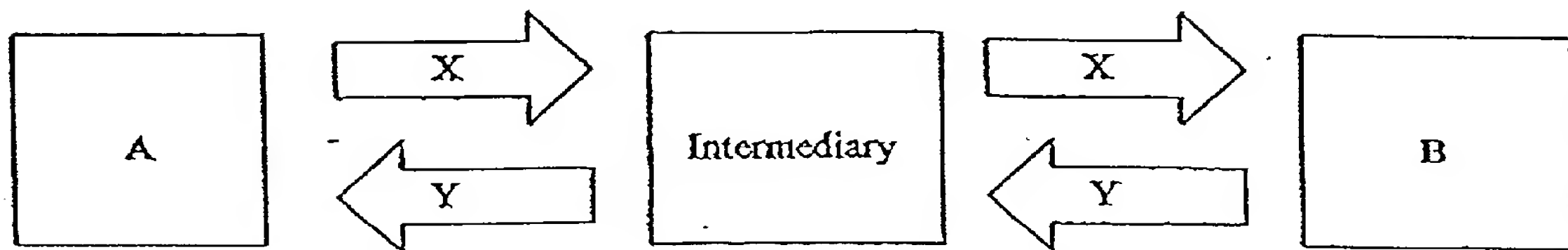


Fig. 7B

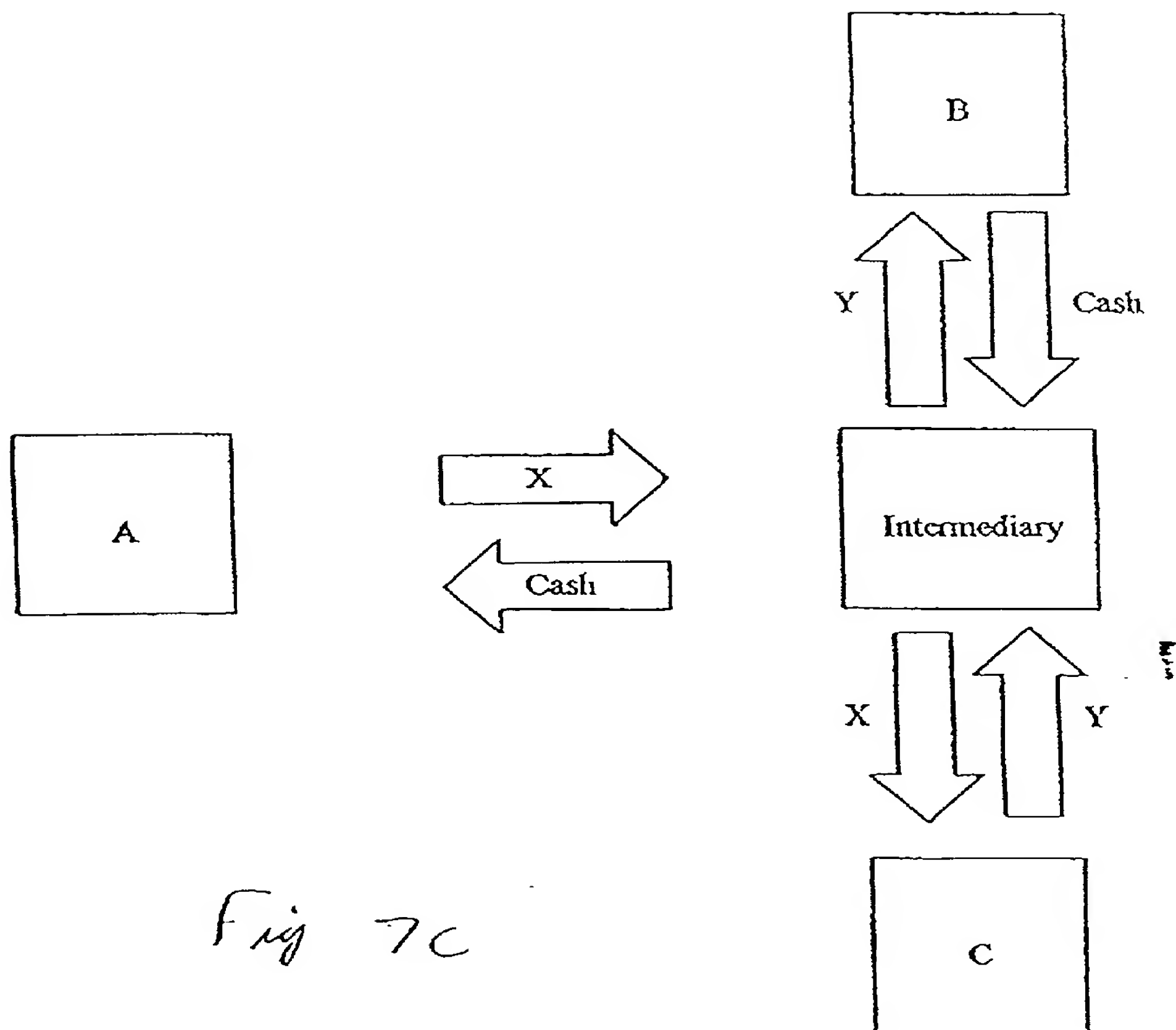


Fig 7C

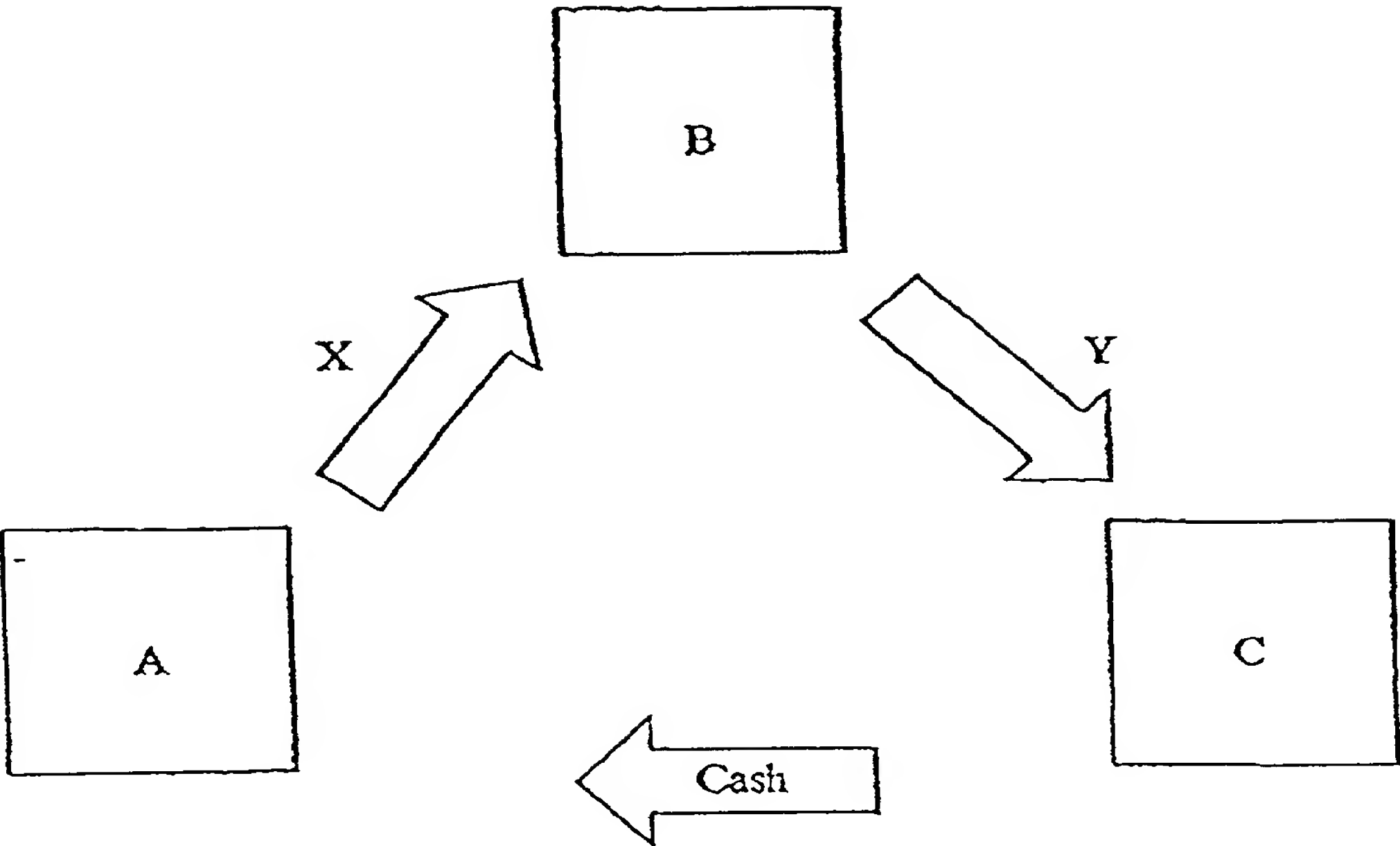


Fig. 7D

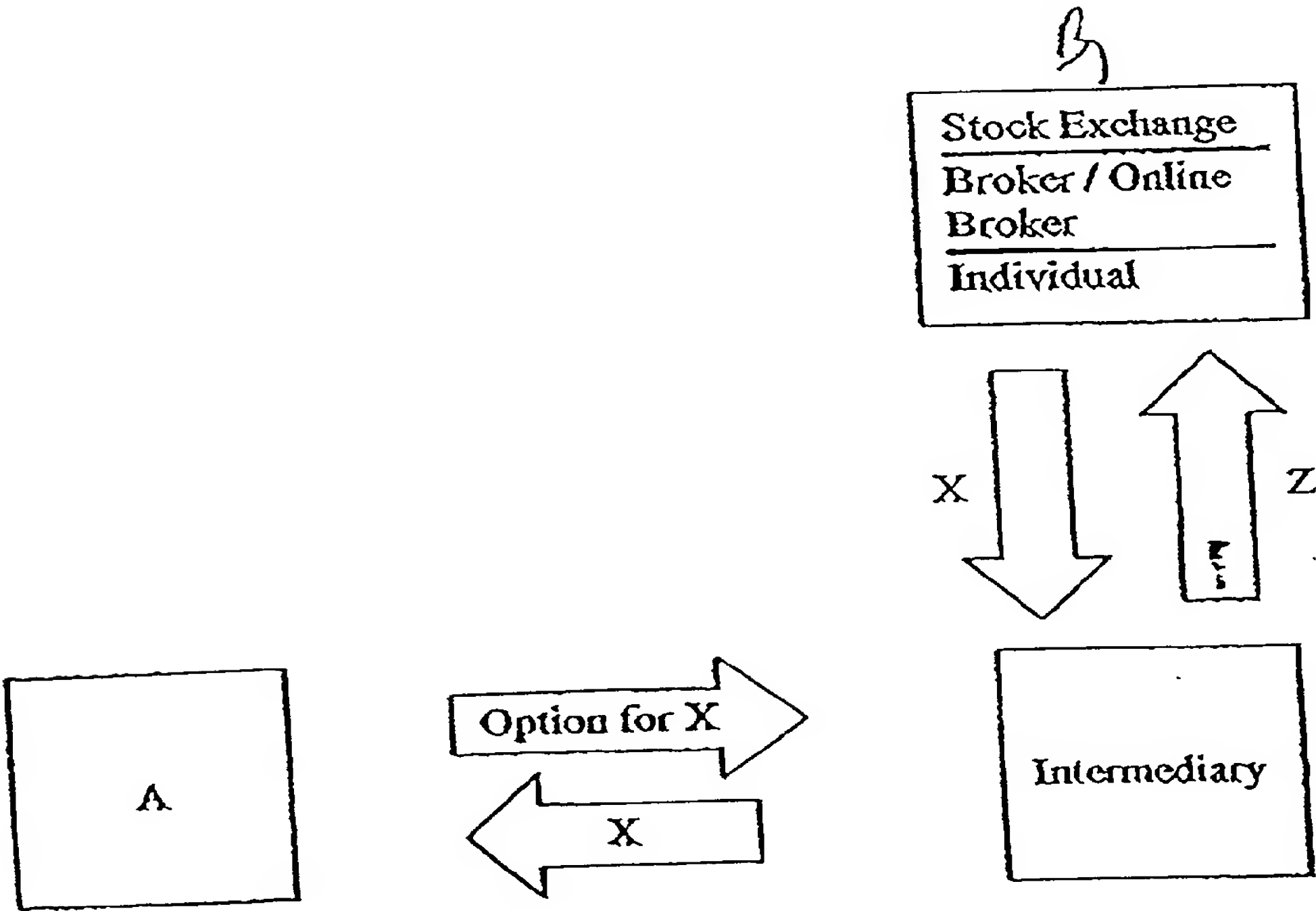


Fig. 7E

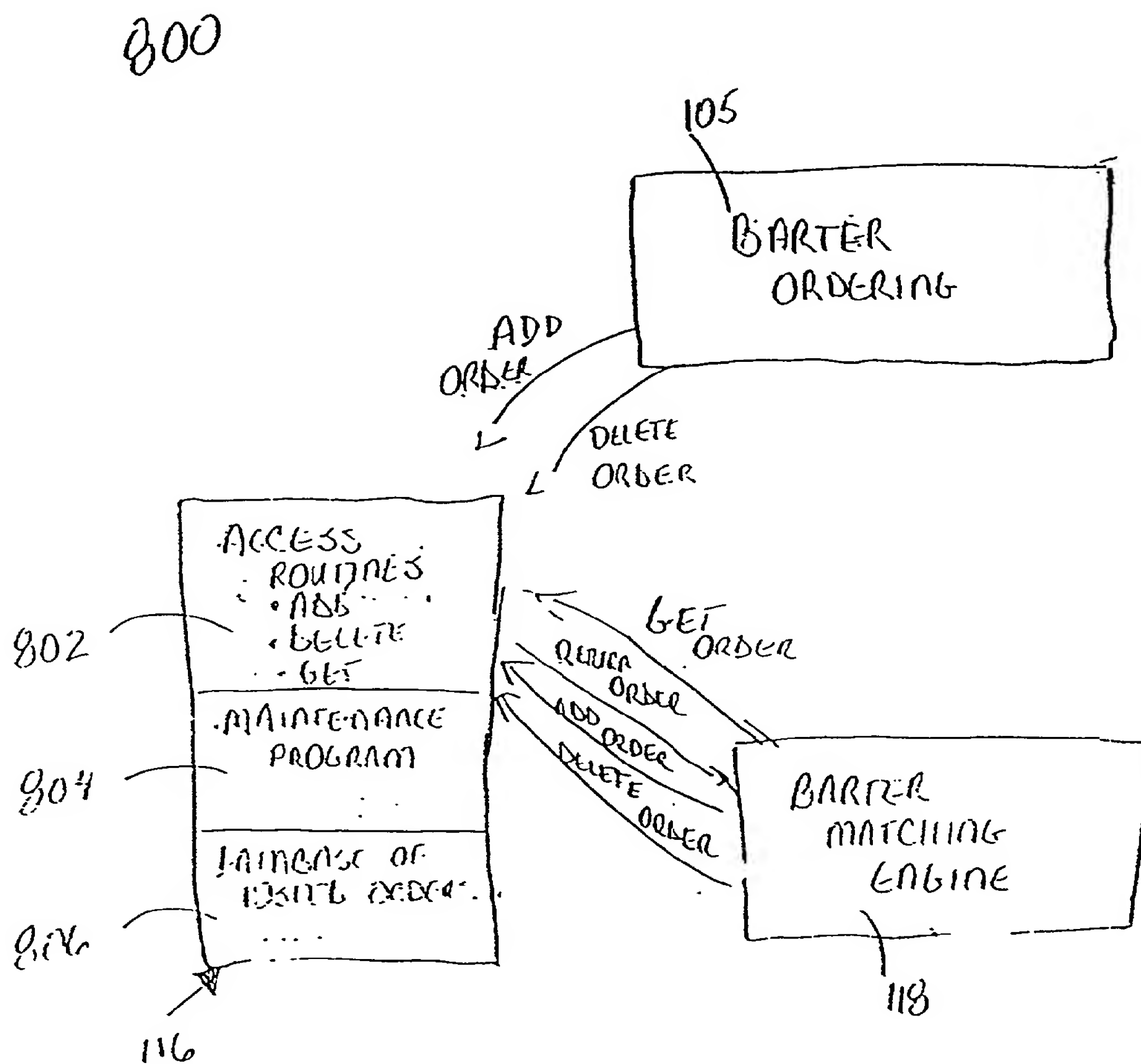


FIG. 8

Class/ Type	Item/ Identification	Amount	Market Value	Bid / Strike Price	Expiration Settlement Date	Barter Value	Interest Rate/ Current Yield	Due/Maturity Date	Other	Barter/Settlement Date Open/Close
1 Stock	Symbol or Name	# Shares	\$	N/A	N/A	\$ or specific relationship to market value	N/A	N/A	Dividend?	MMDDYY MMDDYY
2 Currency	US or Foreign	X	US\$	N/A	N/A	US\$ or specific relationship to market value	N/A	N/A	Par Discount Premium	MMDDYY MMDDYY
3 Bonds	Issuer	X	\$	N/A	N/A	\$ or specific relationship to market value	Y% interest rate	MMDDYY	N/A	MMDDYY MMDDYY
4 Options	Z	N	\$	+/- \$	MMDDYY	\$ or specific relationship to market value	N/A	N/A	N/A	MMDDYY MMDDYY
5 Government Bond	Treasury Notes, Bonds or Bills	X	\$	+/- \$	N/A	\$ or specific relationship to market value	Y% yield rate	MMDDYY	N/A	MMDDYY MMDDYY
6 Futures	Symbol or Name	Measurement * Quantity	\$	N/A	MMDDYY	\$ or specific relationship to market value	N/A	N/A	N/A	MMDDYY MMDDYY
7 Annuities	Issuer	X	\$	N/A	N/A	\$ or specific relationship to market value	Y% interest rate	MMDDYY	Fixed or Variable Interest Rate	MMDDYY MMDDYY
8 CD's	Issuer	X	\$	N/A	N/A	\$ or specific relationship to market value	Y% interest rate	MMDDYY	Compound Interest?	MMDDYY MMDDYY
9 Web Barter Dollar	IOU	X	\$	+/- \$	MMDDYY	\$ or specific relationship to market value	Y% interest rate	MMDDYY	Dividend? Par, Discount, Premium Fixed or Variable Interest Compound Interest?	MMDDYY MMDDYY

Y = interest rate or current yield in percentage

N = Quantity of options

Z = Any security

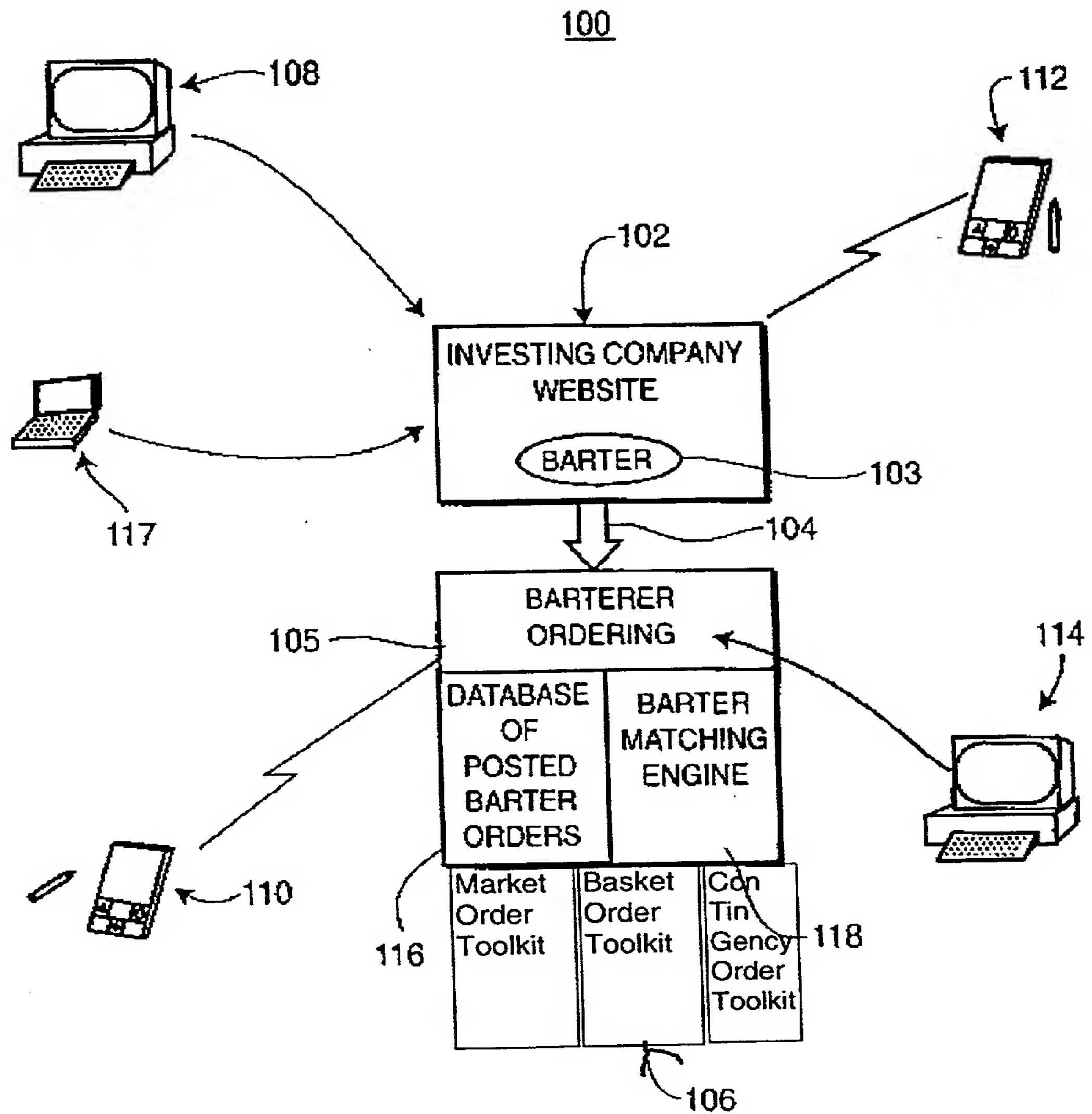
X = Foreign or domestic currency

Fig. 9A

Class/ Type	Item/ Identification	Amount	Market Value	Bid/Strike Price	Expiration Settlement Date	Barter Value	Interest Rate/ Current Yield	Due/Maturity Date	Other	Barter Settlement Date Open/Close
1 Stock	AOL	100 Shares	\$ 10,200.00	N/A	N/A	\$ 10,750.00	N/A	N/A	Dividend?	01-FEB-01/21-MAR-01
2 Currency	Canadian \$	5,000 C\$	\$ 3,453.04	N/A	N/A	\$ 3,418.28	N/A	N/A	N/A	02-JAN-00/01-JAN-00
3 Bonds	Mirage	25,000.00	\$ 24,750.00	N/A	N/A	\$ 24,900.00	8.50%	1-MAR-15	Per. Discount, Premium	26-DEC-01/21-DEC-01
4 Options	IBM	12 Options	\$ 122,400.00	\$ 102.00	30-Nov-99	\$ 12,840.00	N/A	N/A	N/A	4-OCT-99/4-NOV-99
5 T-Bills	US Government	\$ 10,000.00	\$ 10,000.00	\$ 101.00	N/A	\$ 9,800.00	4.91%	15-Jun-00	N/A	01-DEC-99/15-DEC-99
6 Futures	Gold	10 troy oz	\$ 3,157.50	N/A	30-Nov-99	\$ 3,400.00	N/A	N/A	N/A	01-DEC-99/15-OCT-99
7 Annuity	TransAmerica	\$ 100,000.00	\$ 100,000.00	N/A	N/A	\$ 105,000.00	10.50%	10-Jun-06	Per. or Variable Interest	02-JAN-01/12-JAN-02
8 CD's	San West Bank	\$ 50,000.00	\$ 50,000.00	N/A	N/A	\$ 49,600.00	4.14%	10-May-00	Compound Interest?	12-DEC-99/12-DEC-99
9 Web Barter Dollars	IOU	\$ 25,000.00	\$ 25,000.00	A	B	\$ 24,500.00	C	D	Compound Interest? Per. Discount, Premium Paid or Variable Interest	01-DEC-99/15-DEC-99

A = Could have Bid/Strike Price if Web Barter \$ are from Options or Government Bonds+C9 depending on terms and conditions in barter transactions
B = Could have Expiration Date if Web Barter \$ are from Options or Futures depending on terms and conditions in barter transactions
C = Could have Yield or Interest Rate if Web Barter \$ are from Bonds, Government or CD's depending on terms and conditions in barter transactions
D = Could have Maturity Date if Web Barter \$ are from Bonds, Government Bonds, Annuity

Fig. 9B



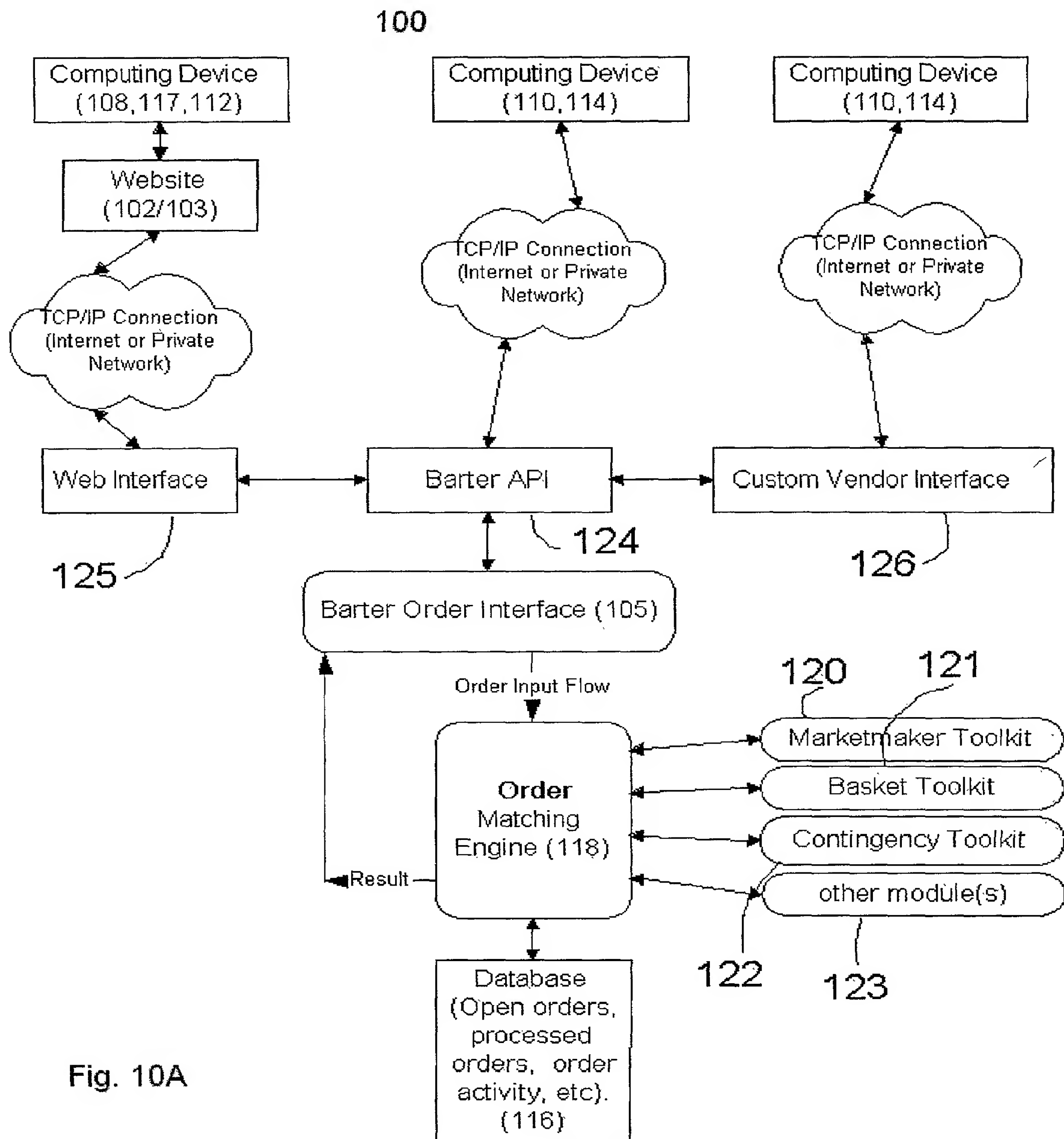


Fig. 10A

Request Barter Order Trade Prices

Symbol: Quantity:

(For each leg, specify shares or dollars, but not both.)

SELL SIDE:

BUY SIDE:

Figure 11

Response to User Trade Request

Options:

SELL 2000 HD -vs- BUY 1000 IBM

National Best Bid and Offer					
LT	Chg	Bid	Ask	Size	
HD	54 1/8	+ 1/2	54 3/16	10 x 10	
IBM	100 1/8	+ 1 1/4	100 1/4	20 x 10	
UNIT NBBO: \$406.25 + 1/8 \$418.75 \$400.00 10 x 10					
YOUR UNIT BID: \$412.50					
TOTAL NBBO: \$8,125 + \$250 \$8,375 \$8,000 \$375					
YOUR TOTAL BID: \$8,250 \$125 \$250					
Dollars Saved					

Shares	Price	Type	You	Save
1000	-407.50	System	\$75.00	Trade
500	-403.75	System	\$18.75	Trade
500	-400.94	System	\$ 4.69	Trade
2000	-400.00	System		Trade
1000	-400.00	NBBO		Trade

Figure 12

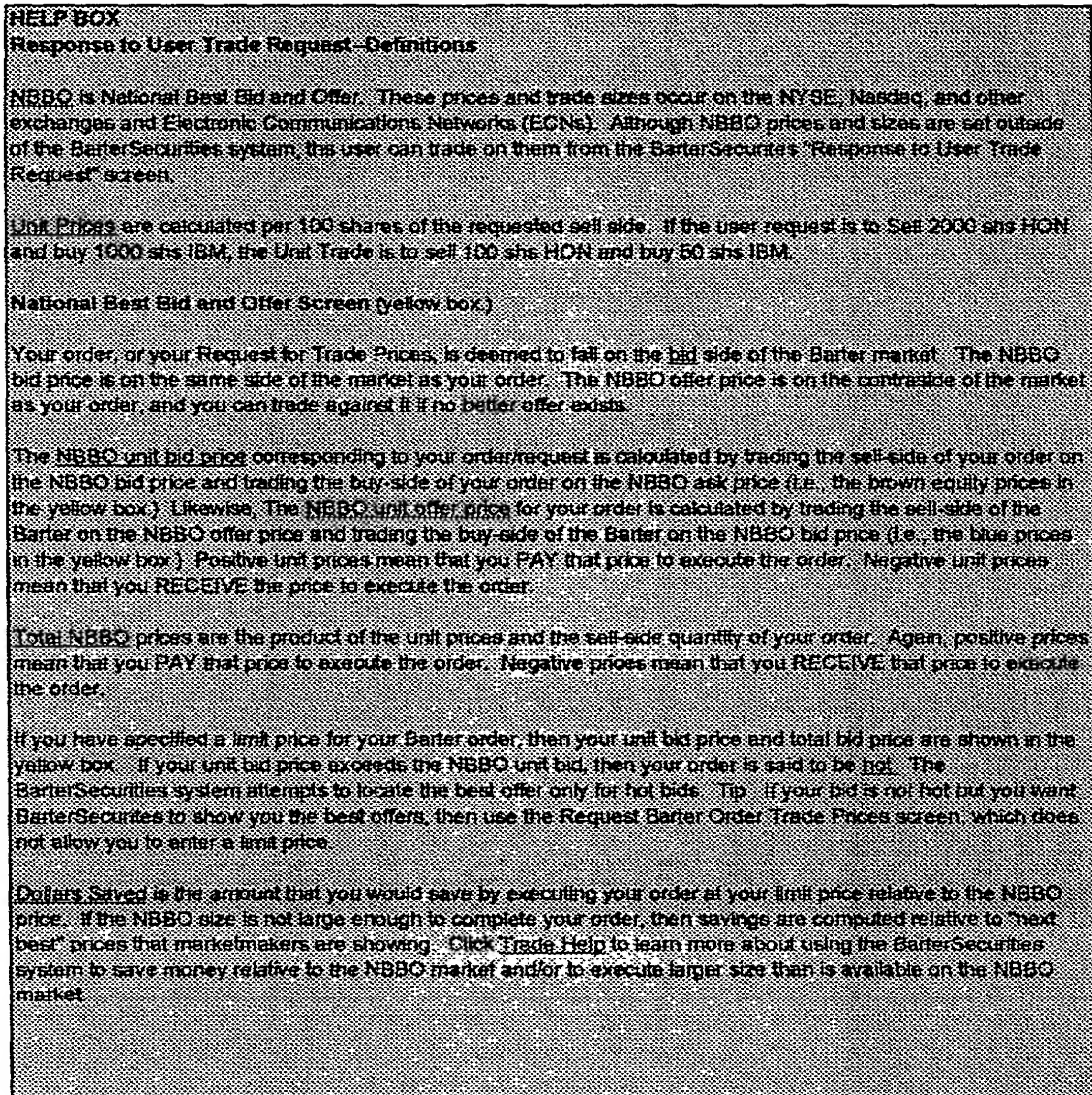


Figure 13

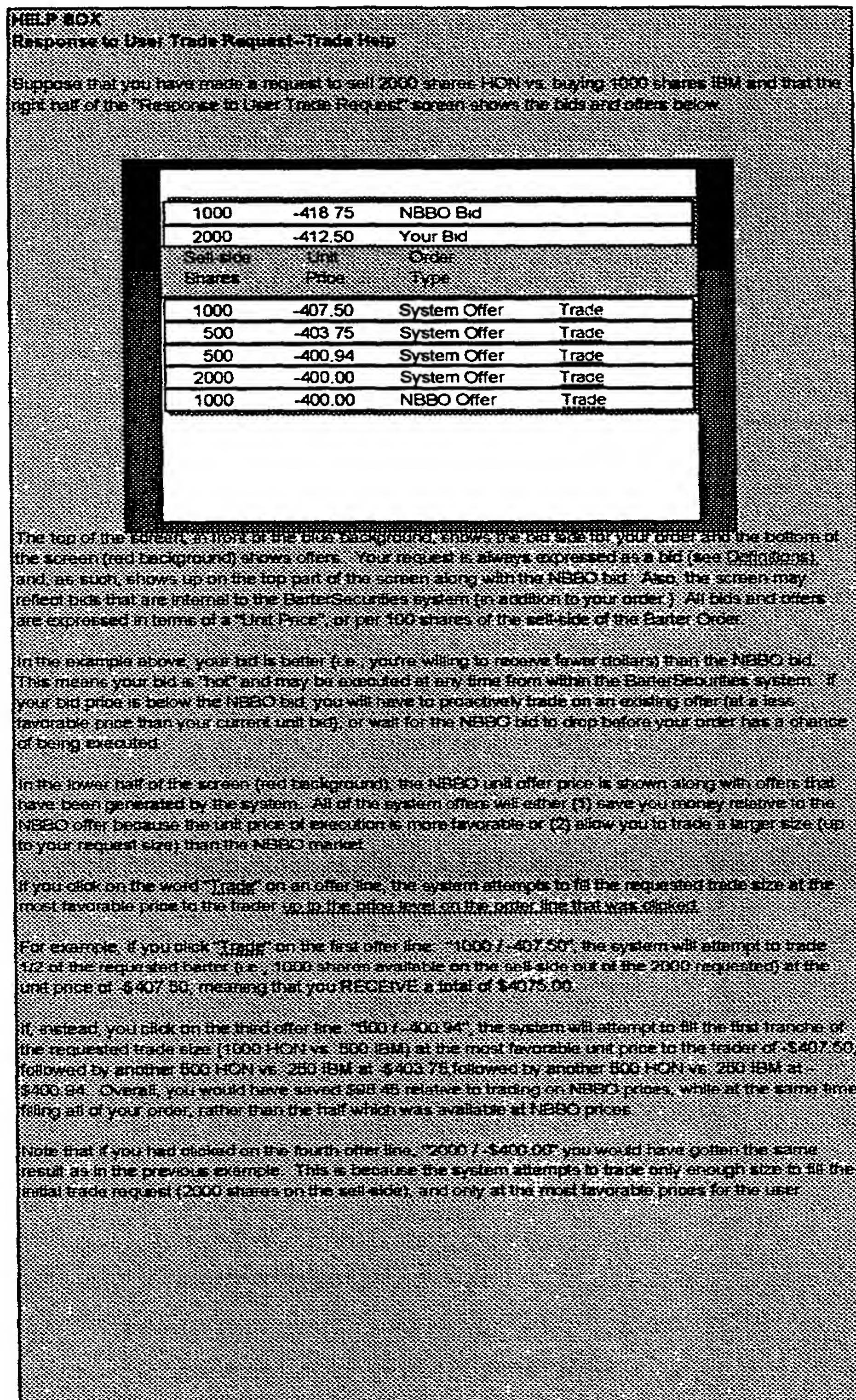


Figure 14

[illegible]

Execution Types:

Market

Pay/Receive Link

Advanced Market

Advanced Pay/Receive Limit

Figure 15

Automatic Bid/Offer Responses

Rule	Conditions	Price and Size
great_hedge *default *show_manual_1 *show_manual_2 illiquid_one small_cap_both small_defn	Select Variable Select Operator SICmatch = 2 VOLmin >= 2 both_symlist = 1-4	Price Adjustment NBBO + 0% Tier 1: price: NBBO - 25% size: NBBO Tier 2: price: NBBO size: NBBO + 500 shs Tier 3: price: NBBO + 10% size: \$25,000

Size Offered

☐ NBBO +
☐ NBBO -
☐ constant
☐ constant

Figure 16

Symbol Lists

Enter List Name:

1. Fred
2. John
3. Bob

Enter Symbol:

IBM
SUNW
HP
DELL
CPQ

New Edit Delete Add Remove

OK Cancel

Figure 17

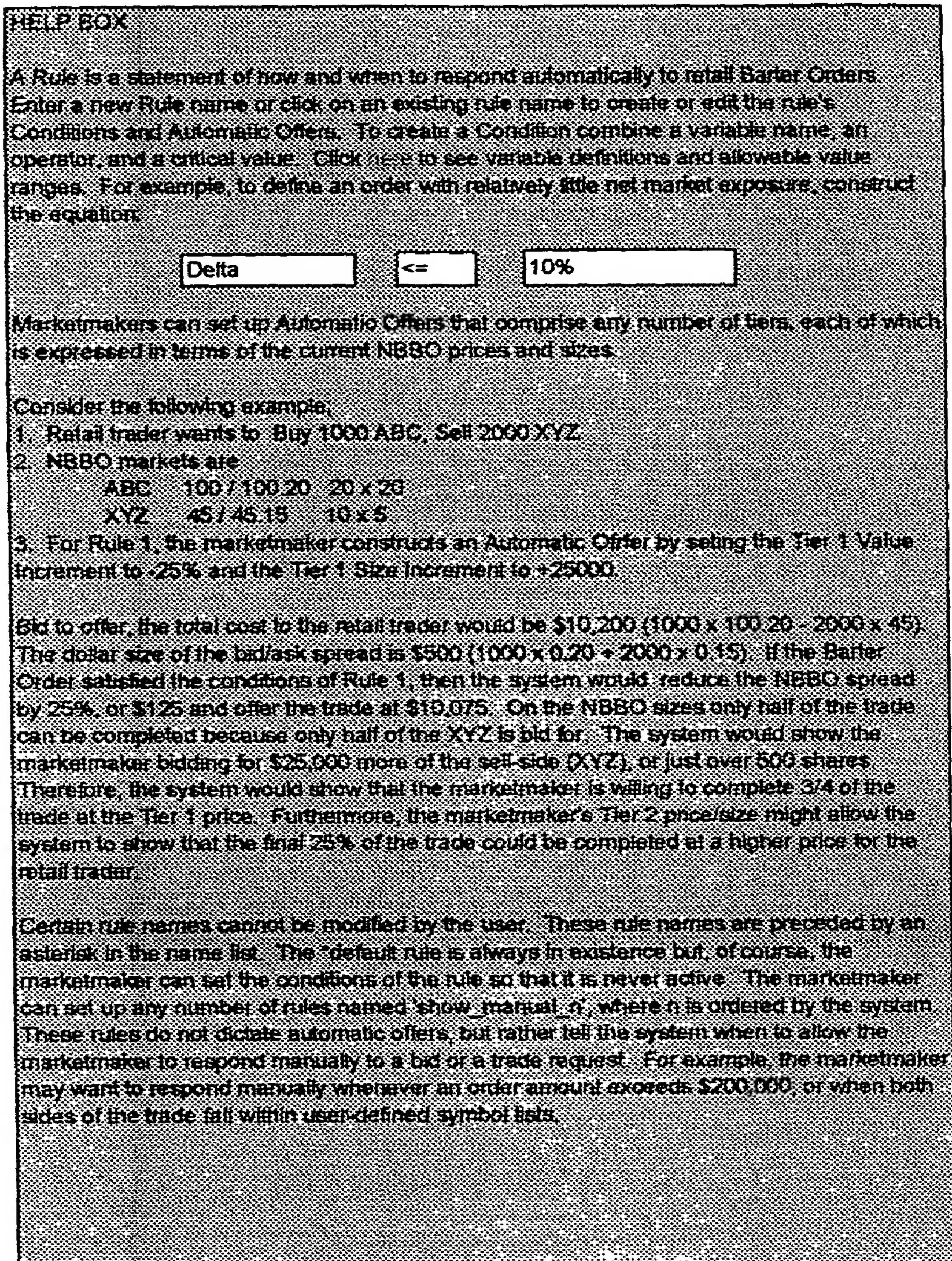


Figure 18

HELP BOX

Definitions of Variables and Allowable Value Ranges

Variable	Definition	Range (units)
Delta	$\frac{\text{abs}(\text{long} - \text{short})}{(\text{max}(\text{long}, \text{short}))}$	0-100%
SICmatch	Number of SIC code digits of buy and sell that match, starting from left	0,1,2,3,4
MCAPmax	Market Cap of larger cap stock	(\$m)
MCAPmin	Market Cap of smaller cap stock	(\$m)
VOLmax	Avg Daily \$-volume traded, last 30 days, of more-active stock	(\$m)
VOLmin	Avg Daily \$-volume traded, last 30 days, of less-active stock	(\$m)
BA_Debt	Dollar value of bidask spread of Barter Order on NYSE and Nasdaq made prices	(Dollars)
either_symbol	Group of user-defined symbol lists that contains at least one trade symbol	1, ..., n e.g., 1,4,6,8
both_symbol	Group of user-defined symbol lists that contains both trade symbols	

Figure 19

HELP BOX

Examples of Variable usage

Delta measures the dollar amount of exposure of the Barter Order. If the retail trader's buy side debt is \$100,000 and the sell side credit is \$75,000, the debt is

$$25\% = (100000 - 75000) / \max(100000, 75000)$$

SICmatch shows how industry-related two stocks are. Matched digits are counted from the left until a match fails, after which remaining digits do not count

SIC #1	SIC #2	SICmatch
4013	4031	2
2831	4031	0

MCAPmax and MCAPmin measure market capitalization of the bigger and smaller stock, respectively. To ensure that both stocks' market cap exceeds \$1 billion, enter "MCAPmin >= 1". To ensure that at least one stock's market cap exceeds \$10 billion, enter "MCAPmax >= 10".

VOLmax and VOLmin measure the dollar volume of the more- and less-active stock, respectively. To ensure that both stocks trade at least \$2 million per day, on average, enter "VOLmin >= 2". To identify trades in which neither stock trades more than \$2 million per day, on average, enter "VOLmax <= 2".

BA_Debt is the dollar width of a Barter Order on the NBBO market. If a retail trader wishes to buy 100 ABC on the NBBO market 50-50.25 and sell 300 XYZ on the NBBO market 20-20.10, then the dollar size of the spread is \$55, or $100 \times 0.25 + 300 \times 0.10$.

either_symbol and both_symbol allow the marketmaker to identify whether stock symbols fall in marketmaker-created lists. Suppose the marketmaker sets up three lists

List 1: IBM, CPQ, DELL, SUNW, HP

List 2: GM, F, OX

List 3: AGT, ADBE, AMGN, AMAT, AMCC

To ensure that at least one of the Barter Order symbols falls in lists 1 or 3, enter "either_symbol = 1,3". To ensure that both Barter Order symbols fall in any of the lists, enter "both_symbol = 1,2,3".

Figure 20

Define Order Contingencies

Name:

Techs_up_2

SPX up for day

NDX_crosses_mavg

star_on_low

Conditions:

[SUNW]Price >= 1.02*[SUNW]Cprice(D-1)

[CSCO]Price >= 1.02*[CSCO]Cprice(D-1)

[#]Price >= 1.02*[#]Cprice(D-1)

New Delete Add Edit Remove OK Cancel Help

Figure 21

Help Screen-Define Contingent Orders

An order contingency is a set of user-defined conditions that must be satisfied before a "primary" order (i.e. symbol, buy/sell, quantity, market/limit) is sent, and by giving this group of conditions a label, or name, that will be used when the primary order is created.

To create and name a new order contingency enter the new name in the top field under "Name" and click New. The name will be entered in the lower field along with the names of existing order contingencies. To delete an existing order contingency, including both its name and conditions, highlight the name in the lower field and click Delete. To enter the conditions that are associated with an order contingency, highlight the name in the lower field and begin typing conditions in the top field under "Conditions".

Conditions of an order contingency are used to describe market characteristics. The system sends an order only when all of the conditions are satisfied. (To send an order using "or" logic, create two or more primary orders in the Send Contingent Order window, and apply a different Contingency Name to each primary order.) A Condition may consist of variables, arithmetic operators, numerical constants, security symbols, and a comparison operator such as "greater than or equal to". Variables can be pre-defined by the system and include large numbers of fundamental, technical, historical, and descriptive characteristics. These variables and their mnemonic abbreviations are accessed through a pop-up screen in response to clicking the Select Variable button. Examples of variables are "one-year-ago earnings per share", "10-day moving average", "percent change in price over last 30 days", and "shares outstanding". Users can create new variables by combining system variables with arithmetic operators, as in (Book Value / Shares Outstanding). Thus, user-defined expressions can be created and tested against user-defined benchmarks, as in the condition, (Book Value / Shares Outstanding <= Current Price). [Click here to learn variable syntax.](#)

To create a new condition, type the condition in the top field under "Conditions" and click Add. To modify a condition, highlight the condition in the lower field and click Edit. To delete a condition, highlight it in the lower field and click Remove.

To save the changes that have been made, click OK. To ignore the changes that have been made since the last Save, click Cancel.

Figure 22

Help Screen—Variable Syntax

In the examples below, *variable* refers to any system or user-defined variable, such as "Price" for the intraday last traded price of a security.

[SYM]*variable* is the variable for the security whose symbol is SYM. For example, [CSCO]Cprice is yesterday's closing price of Cisco.

[#] is a special symbol which denotes the security for which an order will be sent. For example, suppose that within a portfolio of ten stocks, each stock is to be sold using a market order when the stock has risen 2% from the previous close. By using the [#] symbol, only one contingency need be defined in the Define Order Contingencies screen, and the same condition can be applied to the ten different stocks in the "Send Contingent Orders" screen.

Note that when entering a limit price that is dependent on the market picture at the time the order is delivered, the [#] symbol may be omitted, since the symbol of the intended security is already given in the Send Contingent Order screen.

variable (D-n) is the variable measured back n trading days. For example, CPrice(D-3) is a closing price three trading sessions ago. If "n" is not entered, it is assumed to be zero. For certain variables whose default is daily measurement, the letter D may be excluded. For example, CPrice(-5) is the closing price 5 trading days ago.

For certain fundamental variables, *variable* (Q-n) and *variable* (Y-n) are the variable measured back n quarters and n years, respectively. For example, EPS(Q-1) is "Earnings per Share" measured 1 quarter ago. EPS(Q) is the most recent quarterly earnings per share, whereas EPS(Y) is the earnings per share for the most recent fiscal year.


{time+n} is an order suspension qualifier which is entered at the end of a condition and which holds the contingent order until the time indicated on the day indicated by n. For example, {15:45+1} holds an order without sending it to the market until 3:45pm on the trading day after today. If n is not entered, it is assumed to be zero. When passage of time causes the suspension qualifier to be irrelevant, an order is sent to the market only if the remaining market contingencies are satisfied.

Figure 23

Send Contingent Order

Contingency Name:

Symbol:

Action: 

Quantity:

Execution Type:

☐ Market

☐ Fixed Limit:

☒ Dependent Limit:

Figure 24

Help Screen—Send Contingent Order

A contingent order is one that will not be sent until one or more user-defined conditions are satisfied. Furthermore, the limit price of the order, rather than being a fixed price, may be dependent on the market picture at the time that the order is sent. For example, the "dependent" limit price might be the current ask price of the stock at the time the order is sent. Or, the dependent limit price might be the most recent closing price of a stock, plus the product of the change in the SPX index for the day and [the beta of the stock relative to the SPX index]. To learn about the syntax that can be used to enter contingency conditions and dependent limit prices, refer to the help screen on variable syntax.

In order to apply contingent orders, a set of user-defined conditions must be defined in the Define Order Contingency screen and given a name that is used in the first field of the Send Contingent Order screen.

Figure 25

Define Baskets

Enter Basket Name

Sell_HiTech

1. BigCap_Healthcare

2. Buy_Value

3. NDX_Beta_Unity

4. NDX_Beta_Unity

New

Rename

Remove

Enter Symbol Formula

n (Intersection)

U (union)

(tech_symlist_1 U technical_filter_3) n
Portfolio_4

No. of Symbols in Basket 20

Select Quantity Methodology

☐ Amount per Symbol

☐ Total Basket Amount

☐ Equal Currency Amounts

☐ Equal Beta or Factor Exposure

☐ Target Exposure ...

☐ Advanced ...

Save

Cancel

Help

View Symbols, Quantities

IVAX	\$100,000
ABX	\$100,000
ABS	\$100,000
BA	\$100,000
BMV	\$100,000
CSCO	\$100,000
DF	\$100,000
EC	\$100,000
EGRP	\$100,000
IBM	\$100,000
IVAX	\$100,000
LLY	\$100,000
KRI	\$100,000
MRK	\$100,000
MCD	\$100,000
MLI	\$100,000
MO	\$100,000
NOC	\$100,000
PCG	\$100,000
SCH	\$100,000

Add Symbol

Remove Symbol

Modify Quantity

Figure 26

Select Quantity Methodology

Equal Currency Amounts

Equal Beta or Factor Exposure

Target Exposure ...

Advanced ...

Figure 27

Figure 28

Help Screen—Define Baskets

A basket of securities ("basket") is defined to be at least two different securities, grouped in any combination of descriptions or quantities. The "Define Baskets" tool allows the user to identify and define baskets according to market, portfolio, or general risk considerations, as well as quantity specifications.

The Define Baskets tool is partitioned into four sections. These are:

- Enter Basket Name
- Enter Symbol Formula
- Select Quantity Methodology, and
- View Symbols, Quantities

Enter Basket Name

To create and name a new basket, enter the new name in the top field and click New. The name will be entered in the lower field along with the names of existing baskets. To delete or edit the characteristics of a basket, including symbols and quantities, highlight its name in the lower field and enter or edit the symbol formula. To rename a basket, highlight its name, modify the name in the upper field, and click Rename. To delete an existing basket, including both its name and characteristics, highlight the name in the lower field and click Remove.

Enter Symbol Formula

In order to use this section, you must understand the Fundamental and Technical Filter window and the Symbol List window.

Symbol formulas are created by taking unions and intersections of user-defined symbol lists and user-defined filters. The union and intersection operators apply to two sets at a time. Using parentheses, such expressions can be combined to any depth. The union of two sets of symbols includes all of the symbols that are in either of the two sets. The intersection of two sets of symbols includes all of the symbols that are in both sets. Once the symbol formula is entered and the user clicks on another part of the window, the number of symbols in the resulting basket is shown below the formula window.

Select Quantity Methodology

Prior to sending a basket order, quantities (preferably in currency amounts rather than in shares) must be attached to each symbol in the basket. The pull-down Select Quantity Methodology button reveals four ways of attaching quantities to symbols. These are:

- Equal Currency Amounts
- Equal Beta or Factor Exposure
- Target Exposure, and
- Advanced

Amounts are assumed to be in U.S. dollars unless the user chooses a different currency by way of pull-down menu. If the amount of a security is not expressed in its home currency, the system converts the expressed amount into the home currency using current FX spot rates at the time a basket order is sent. In the subsequent discussion, the term "dollars" is used to denote the currency that is chosen by the user.

Equal Currency Amounts

This methodology causes the same amount of dollars or other currency to be associated with each security in the basket. After selecting this option, the user must enter either the amount of each security or the named amount of the basket.

Equal Beta or Factor Exposure

This methodology causes the same amount of market exposure to be associated with each security in the basket. After selecting this option, the user must enter the named dollar or the factor which will be used to compare the exposures of each security. For example, if the user types in or uses the pull-down menu to select BETA, then the beta of each security in the basket to the S&P 500 index is measured. When the basket is sent, the orders of a security are chosen so that (assuming BETA used) are equal to each security. That is, fewer dollars of high-beta securities than of low-beta securities are sent. Moreover, the user can select certain factors (e.g., value, growth, current yield, etc.) to govern market exposure. When the basket is sent, dollar amounts for each security are calculated to equal the exposure to the chosen risk factor for each security in the basket.

Target Exposure

Selecting this option opens a pop-up window to appear. The user is prompted to choose a target exposure, and to identify a second asset (either another basket or a single security). When sending the basket, the dollar amount of the second asset is scaled so that the original basket plus the second basket has the desired exposure. (If this is not mathematically possible, the user is alerted before the order is delivered.) For example, the user can combine a basket of high-risk technology stocks with the right amount of T-bills to produce a target amount of beta to the Nasdaq-100 index.

Advanced

Selecting this option causes a pop-up window to appear. The user may input specific dollar amounts for each security, or may modify the result of previous methodologies (e.g., Equal Currency Amounts) for individual securities.

View Symbols, Quantities

Once the Symbol Formulas and Quantity Methodology have been chosen, the clicking the View Symbols, Quantities button displays the list of security symbols and corresponding quantities that are associated with the highlighted basket. To add symbols individually, type a symbol in the top left field and a quantity in the top right field under the View Symbols, Quantities button and click Add Symbol. (To add a symbol without a quantity, use the "Symbols List" or "Fundamental and Technical Filter" window.) To delete a symbol and its quantity from the list, highlight the symbol and click Remove Symbol. To modify a quantity for a symbol, highlight the symbol, then type the new quantity in the top right field under the View Symbols, Quantities button and click Modify Quantity.

Symbol Lists

Enter List Name:

1. Low_Price
2. BigCap
3. tech_symlist_1
4. tech_symlist_1

New Edit Delete

Enter Symbol:

IBM
SUNW
HPQ
DELL
CPQ

Add Remove

Copy Symbols from File...

OK Cancel

Figure 29

Help Screen--Symbol Lists

This window allows the user to set up any number of symbol lists, each of which includes a set of known security symbols. To name a symbol list, enter the name in the top field under "Enter List Name" and click New. The name will be entered in the lower field along with the names of existing symbol lists. To remove an existing list, including its name and corresponding security symbols, highlight the name in the lower field and click Delete. Highlight the name in the lower field and click Edit to input the symbols that make up the list.

Symbols can be added to a list that is being edited in two ways. To enter symbols individually, type a symbol in the top field on the right side of the window under "Enter Symbol", and click Add. The symbol will be entered in the lower right field along with existing symbols for this list. Alternatively, an existing file of symbols can be appended to a list by clicking Copy Symbols from File, and following the pop-up directions. Use this to copy the symbols from an existing portfolio, for example. To delete a symbol from the list that is being edited, highlight the symbol and click Remove.

Click OK to save the changes that have been made, or Cancel to ignore changes.

OK Cancel

Figure 30

Filter Name:

Momentum1

Hi_EPS_growth

technical_filter_3

Portfolio_4

New

Delete

Conditions

Select Variable

MAVG10 >= MAVG50

Price >= Low_52week * 1.20

MAVG10 >= MAVG50

Vol_Avg_Daily_Dollar > 2.0

Arithmetic Operator

Comparison Operator

Constant

Add

Edit

Remove

OK

Cancel

Help

View Symbols

IVAX

ABX

ABS

BMY

DF

DNY

EC

LLY

MRK

MCD

MLI

NOC

PCG

Add Symbol

Remove Symbol

Figure 31

Help Screen: Fundamental and Technical Filters

Whereas the Symbol List window is used to set up lists of known symbols, the Fundamental and Technical Filters window is used to set up lists of symbols with desired market, portfolio, and risk characteristics. Each such list is called a "Filter". The window is partitioned into two sections: (1) Filter Name and (2) Conditions.

To create and name a new filter, enter the new name in the top field under Filter Name and click New. The name will be entered in the lower field along with the names of existing filters. To delete an existing filter, including both its name and conditions, highlight the name in the lower field and click Delete. Highlight the name in the lower field to define the conditions of the filter, as described below.

Conditions of a filter are used to describe its characteristics. The system searches to find all securities which satisfy all of the stated conditions. (To create a filter where any, not all, of the conditions are met, first create filters of one condition, and then apply the union operator to those filters in the Define baskets window.) A Condition may consist of variables, arithmetic operators, numerical constants, and a comparison operator, such as "greater than or equal to". Variables can be pre-defined by the system and include large numbers of fundamental, technical, historical, and descriptive characteristics. These variables and their mnemonic abbreviations are accessed through a pop-up screen in response to clicking the Select Variable button. Examples of variables are "one-year ago earnings per share", "10-day moving average", "percent change in price over last 30 days", and "shares outstanding". Users can create new variables by combining system variables with arithmetic operators, as in $[\text{Book Value} / \text{Shares Outstanding}]$. Thus, user-defined expressions can be created and tested against user-defined benchmarks, as in the condition, $[\text{Book Value} / \text{Shares Outstanding}] \leftarrow \text{Current Price}$.

To create a new condition, type the condition in the top field under "Conditions" and click Add. To modify a condition, highlight the condition in the lower field and click Edit. To delete a condition, highlight it in the lower field and click Remove.

Once at least one condition has been entered for a filter, clicking View Symbols will display the symbols that are associated with the filter. To add symbols individually, type a symbol in the top field under the View Symbols button and click Add Symbol. To delete a symbol from the list, highlight the symbol and click Remove Symbol.

To save the changes that have been made, click OK. To ignore the changes that have been made since the last Save, click Cancel.

Figure 32

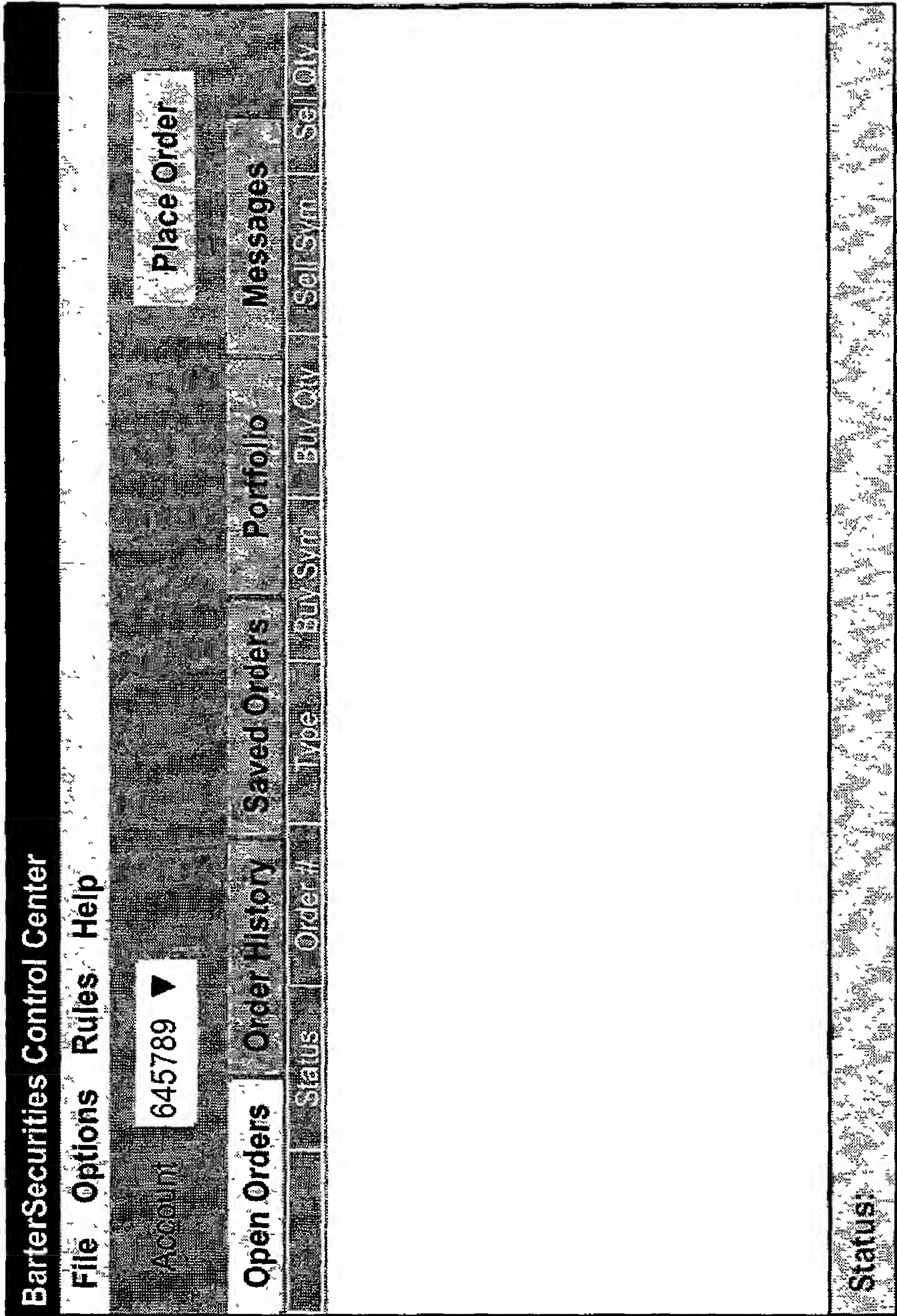


Figure 33

BarterSecurities Control Center

The **Control Center** is the starting point to create and send orders, and to check on trades and positions. Although users may have multiple accounts, the information shown in the **Control Center** applies only to the **Account** designated in the upper left corner.

You may create a new order by clicking the **Place Order** button on the upper right of the screen. Doing so pops up the Order Entry screen from which you may (1) save the order for later use, (2) create a Market or Limit order, or (3) trade directly from the Limit Order Book (LOB) for your order.

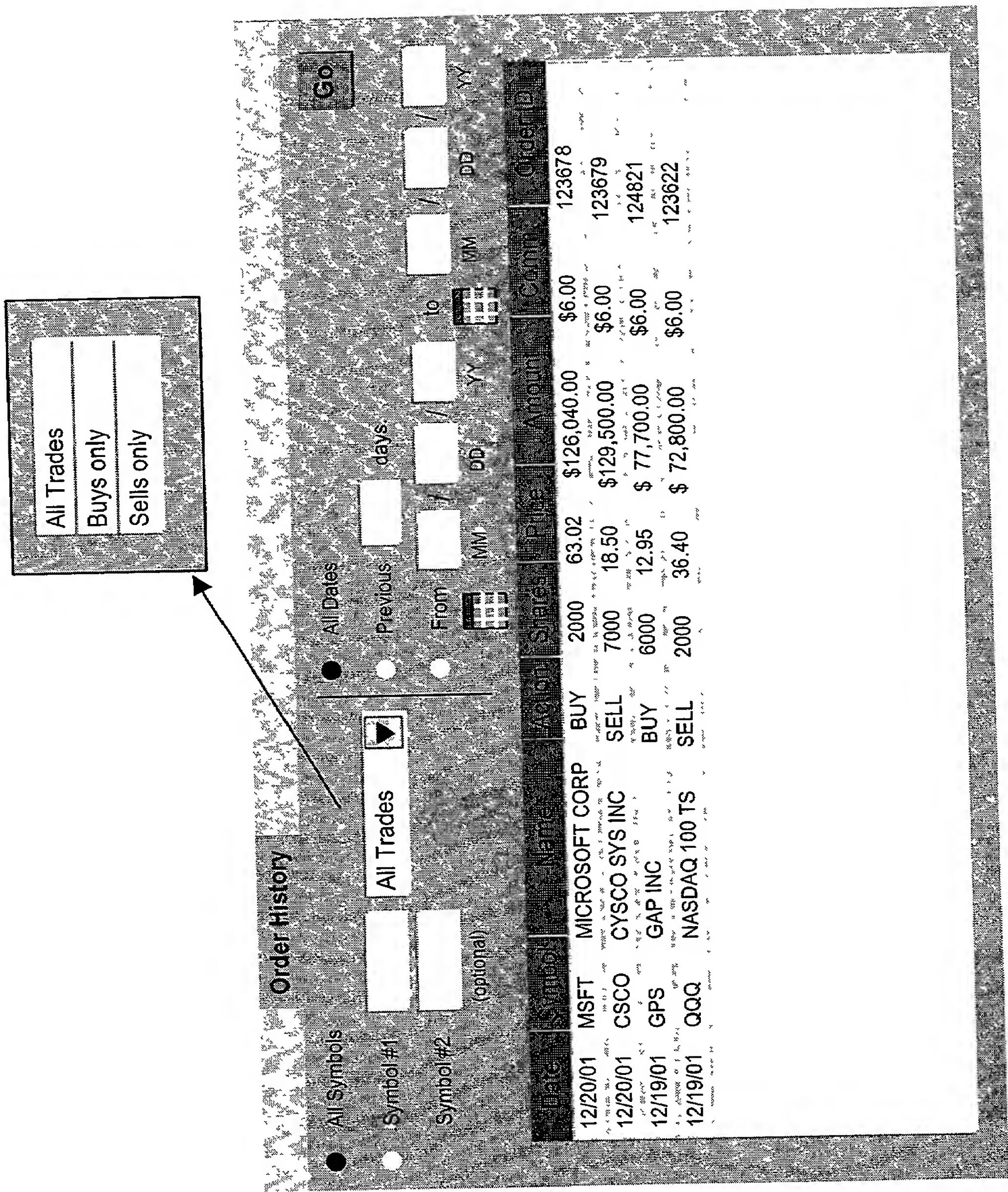
The **Open Orders** tab shows orders that have been sent and are pending prior to execution. For example, if you submit a limit order that is away from the market and so cannot be traded, it will be shown in this tab. Orders are shown as Open, Filled, Out, Canceled, Part Fill, Part Fill--Canceled, or Part Fill--Out. Right-clicking on an order's line brings up a menu which allows you to change or cancel the order. Note that when you trade directly from the LOB, you receive an instantaneous confirmation; hence, your order will not show up in the Open Orders tab.

The **Order History** tab summarizes the barter trades that you have made. By default, trades for all symbols are shown. By filling in the appropriate fields, you may choose to limit the viewed barter trades to only those involving one stated symbol, or only those involving two stated symbols in combination. You may also choose to view only those trades within a stated historical time period. By clicking on a column header, you may sort trades in the list according to the column's attribute. (E.g., "symbol" or "Date/Time".)

The **Saved Orders** tab shows all orders that you have saved for delivery in the future. If you saved an order from the Market Order Entry or Limit Order Entry screens, that fact is indicated in the **Type** column. Double-clicking on one of these orders pops up the respective Market or Limit screen for modification of the order and/or order delivery. If you saved the original order from the main **Order Entry** screen, then there is no corresponding indicator in the **Saved Orders** tab. Double-clicking on such an order pops up the main **Order Entry** screen from which you can initiate a limit or market order or choose to trade directly from the LOB. Right-clicking on any saved order pops up a menu that allows you to trade the order from the LOB, edit the order, or delete it.

The **Portfolio** tab lets you view your current inventory of long and short securities. Double-clicking on any security's row in this tab pops up the main **Order Entry** screen with the security symbol and quantity filled in to effect a closing trade. For example, if you are short 500 IBM, the **Order Entry** screen would show a buy of 500 IBM. After filling in a buy-side security and quantity, you may submit the order.

Figure 34



Save Orders

Type	Symbol	Quantity	Action	Symbol	Quantity	Action	Debit	Credit	Conditions?	Date	Time
LOB	MSFT	BUY 1000		INTC	SELL 2000					12/19/01	13:18
MKT	CSCO	BUY 6000		SEBL	SELL 4000				Yes	12/19/01	13:19
LIM	MSFT	BUY 1000		CSCO	SELL 3000		PAY \$3,100.50		No	12/19/01	13:21
LOB	VRTS	BUY 2000		CSCO	SELL 4000					12/19/01	13:18

Trade
Add
Edit
Delete
Cancel

Figure 36

BarterSecurities Order Entry

Account 645789 ▼ Help

	Buy Side		Sell Side	
Symbol	MSFT	Lookup	INTC	Lookup
Shares	1000	\$	2000	\$

Trade From Order Book Market Order Limit Order

Save Clear Close

↓

\$

↓

Calculate Shares

Enter Dollar Amount

OK Cancel

Figure 37

BarterSecurities Order Entry

Bring up the **Order Entry** screen either by clicking the **Place Order** button on the **BarterSecurities Control Center**, or by double-clicking a saved order. To begin to place an order, first make sure the **Account** number in the upper left of the screen is correct. Then describe your order by filling in just four fields: buy-side symbol, sell-side symbol, buy-side shares and sell-side shares.

If you wish to express quantity in terms of dollars, click the "\$" button next to a **Shares** field. The **Calculate Shares** screen pops up in which you can enter the desired number of dollars. Clicking **OK** transforms the dollars into shares of a security based on the **Last Trade** price of the security.

Unlike traditional one-sided orders, you don't have to specify limit or market status to trade a barter order unless you prefer to do so. You can trade directly from the Limit Order Book for your order.

Market Orders

To send a market order after you have filled in symbol and quantity information, click **Market Order**. You will be asked whether you would like to attach contingencies to your order. For example, you could send your market order only when the price of your buy-side security touches \$50. To learn more click Market Order entry.

Limit Orders

To send a limit order after you have filled in symbol and quantity information, click **Limit Order**. You will be asked to attach a limit price to your order as well as other optional information. To learn more click Limit Order entry.

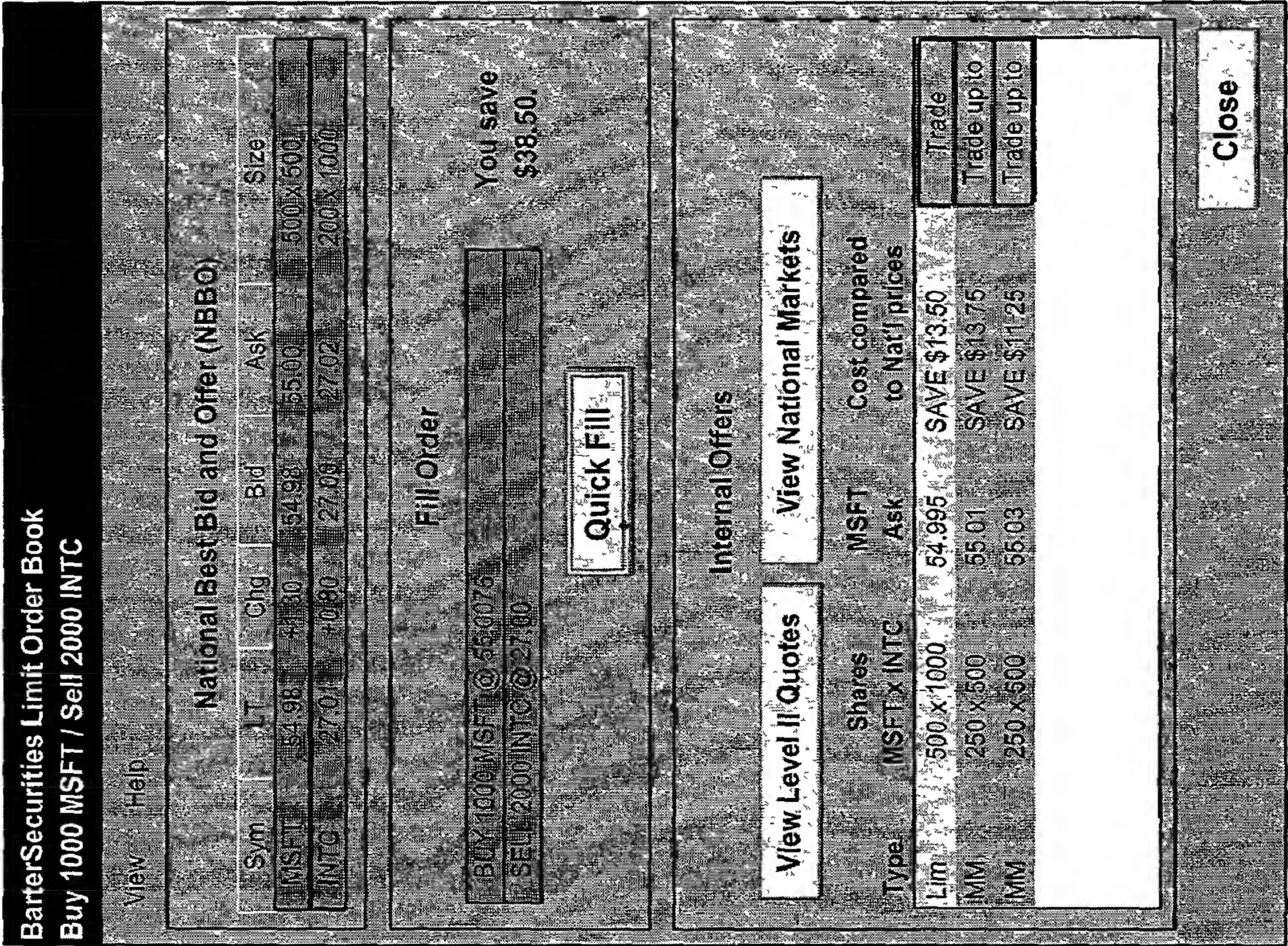
Trade from Order Book

To view the current offers for your order, or to trade directly against the existing offers for your order, click **Trade from Order Book** after you have filled in symbol and quantity information on the **Order Entry** screen. Using the Limit Order Book (LOB) lets you complete a trade without specifying a limit price for your trade and even without specifying Market or Limit status. You can trade on individual offers that are internal to the BarterSecurities system, or you can trade simultaneously with one-click (Quick Fill) on all of the available internal offers up to the quantities that you specified in your incoming order. To learn more about the fastest way to trade your order, click Limit Order Book.

Save Order

To save an order for use later click the **Save** button. The order is saved in the **Saved Orders** tab of the **Control Center**. When you double-click the order in the **Control Center**, your order will pop up in the **Order Entry** screen, from which you can designate a market or limit order, or **Trade from Order Book**. If you wish to save an order along with limit order information, you should click the **Limit Order** button on the **Order Entry** screen, enter the relevant information, and then click the **Save** button on the **Limit Order Entry** screen. The order will still be saved in the **Saved Orders** tab of the **Control Center**, but double-clicking the order will pop up the **Limit Order Entry** screen from which you can modify your information and/or send your order. Likewise for saved market orders.

Figure 38



View Level II Quotes

View National Markets

Figure 39

Level II Quotes					
Buy 1000 MSFT / Sell 2000 INTC					
INTC			MSFT		
27.00	200	27.01	1200	54.98	100
26.99	100	27.01	200	54.98	400
26.99	300	27.02	1300	54.97	1100
26.99	100	27.02	400	54.97	900
26.98	500	27.02	800	54.96	300
				55.00	200
				55.00	300
				55.01	100
				55.01	400
				55.01	300

Figure 40

Internal and External Offers				
Buy 1000 MSFT / Sell 2000 INTC				
Close		Change external trading preferences ...		
Type	Shares MSFT x INTC	MSFT Ask	Cost compared to Nat'l prices	
Lim	500 x 1000	54.995	SAVE \$13.50	Trade
NATL	100 x 200	55.00		Trade up to
MM	250 x 500	55.01	SAVE \$13.75	Trade up to
NATL	250 x 500	55.02		Trade up to
MM	250 x 500	55.03	SAVE \$11.25	Trade up to
NATL	100 x 200	55.04		Trade up to
NATL	400 x 800	55.075		Trade up to

Figure 41

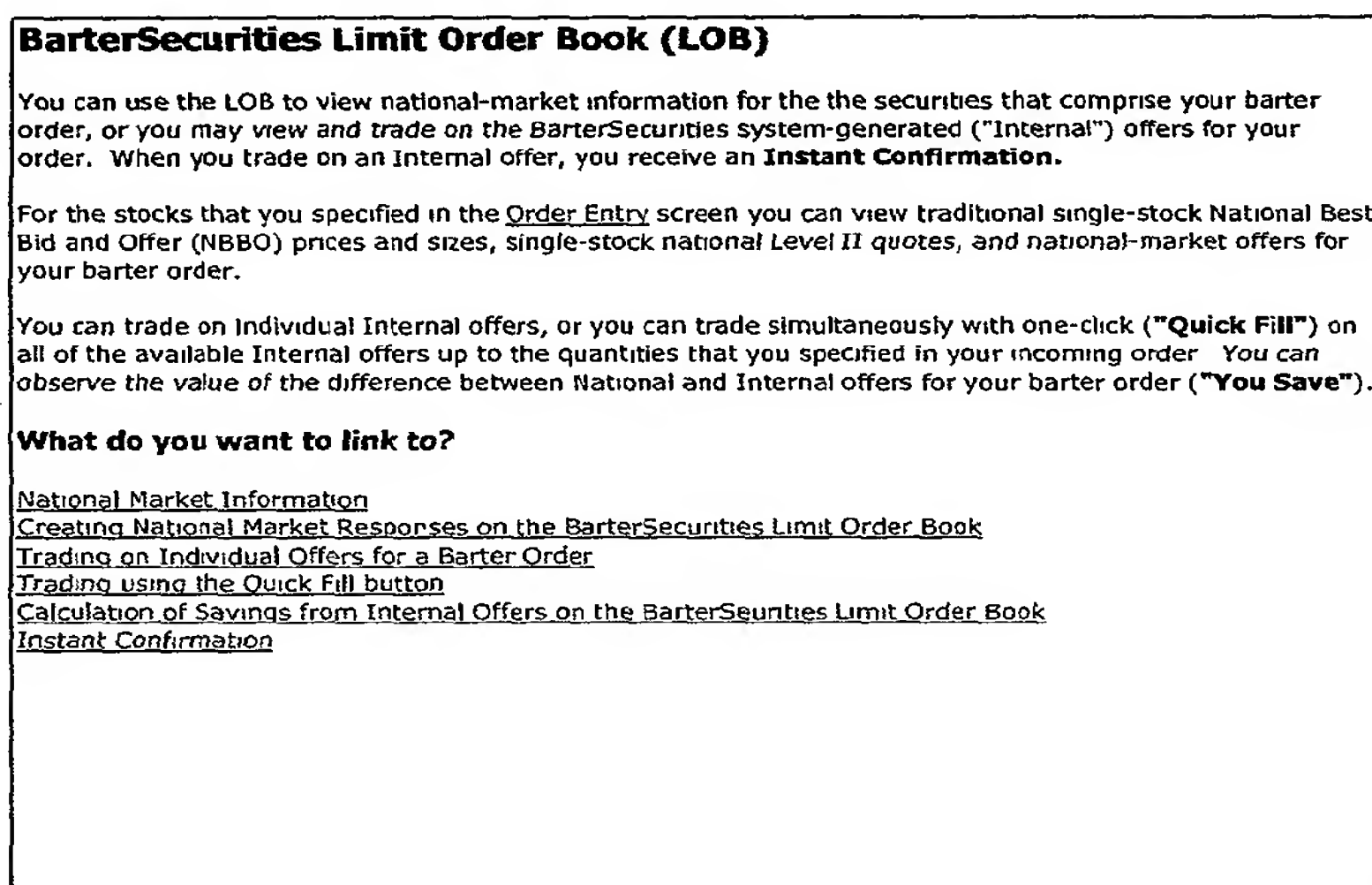


Figure 42

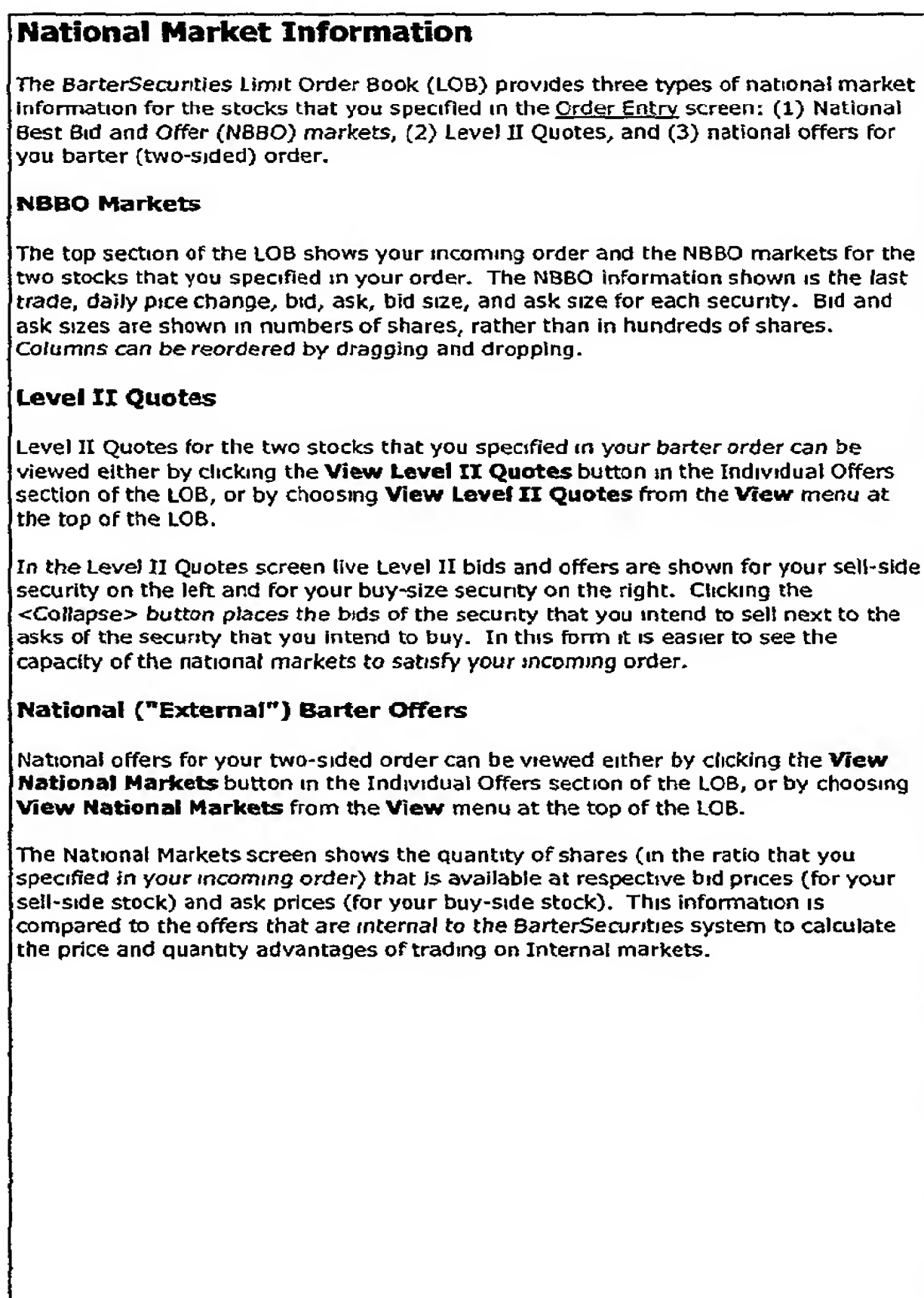


Figure 43

Trading on Individual Offers for a Barter Order

The bottom section of the Limit Order Book (LOB), entitled "Internal Offers", normally shows several offers for the two-sided order that you specified in the Order Entry screen. These offers are internal to the BarterSecurities system; i.e., they are not available in the national markets. The system displays all available internal offers up to a cumulative share quantity equal to the quantities that you specified in Order Entry screen. The offers are ranked from most favorable to least favorable offer price, and they retain the ratio of buy-quantity to sell-quantity that you specified. **IMPORTANT:** All offers are expressed as selling your sell-side security on the current NBBO bid price and buying your buy-side security at the variable Ask price shown.

The data displayed for each internal offer are (1) a barter quantity expressed in actual (not hundreds of) shares, (2) a sell-side security bid price (i.e., the current NBBO bid), (3) a buy-side security ask price (used to rank the offers) and (4) a dollar amount of savings relative to executing your order on the national markets. See how Savings is computed.

Next to the most attractive offer is a **Trade** button and next to each subsequent offer is a **"Trade up to"** button. Clicking on one of these buttons generates an instantaneous trade report at the quantities and prices currently displayed. If a trader clicks a **"Trade up to"** button, then the indicated offer and all more attractive offers are sent for execution. **NOTE:** Traders must exercise care if displayed offers are changing rapidly.

A **Save** amount less than zero means that it may be more expensive to execute your order internally (i.e., on the BarterSecurities system) than on a national market. However, the BarterSeucirites system has these advantages: (1) your order confirmation is immediate, (2) your specified security quantity ratio is preserved, and (3) the internal quantity depth offered may be greater than on the national market.

Figure 44

Trading using the Quick Fill button

The middle section of the Limit Order Book (LOB), entitled "Fill Order", provides a convenient way to view the aggregation of the Individual Offers shown in the bottom section of the LOB. The Quick Fill offer is designed to fill your incoming order, provided that enough individual offers exist to do so. The Quick Fill quantity is the sum of the available individual offer quantities up to the size of your incoming order. The Quick Fill sell-side price is that security's current NBBO bid and the buy-side price is the quantity-weighted average of the individual offer buy-side ask prices.

The data displayed for the Quick Fill offer are (1) buy- and sell-side quantities expressed in actual (not hundreds of) shares, (2) the sell-side security bid price (i.e., its current NBBO bid), (3) a buy-side security ask price and (4) a dollar amount of savings relative to trading the Quick Fill quantities on the national markets. See how Savings is computed.

To trade against the Quick Fill offer, just click the **Quick Fill** button. Doing so generates an instantaneous trade report at the quantities and prices currently displayed. NOTE: Traders must exercise care if displayed offers are changing rapidly.

Quick Fill savings less than zero means that it may be more expensive to execute your order internally (i.e., on the BarterSecurities system) than on a national market. However, the BarterSeucirites system has these advantages: (1) your order confirmation is immediate, (2) your specified security quantity ratio is preserved, and (3) the internal quantity depth offered may be greater than on the national market.

Figure 45

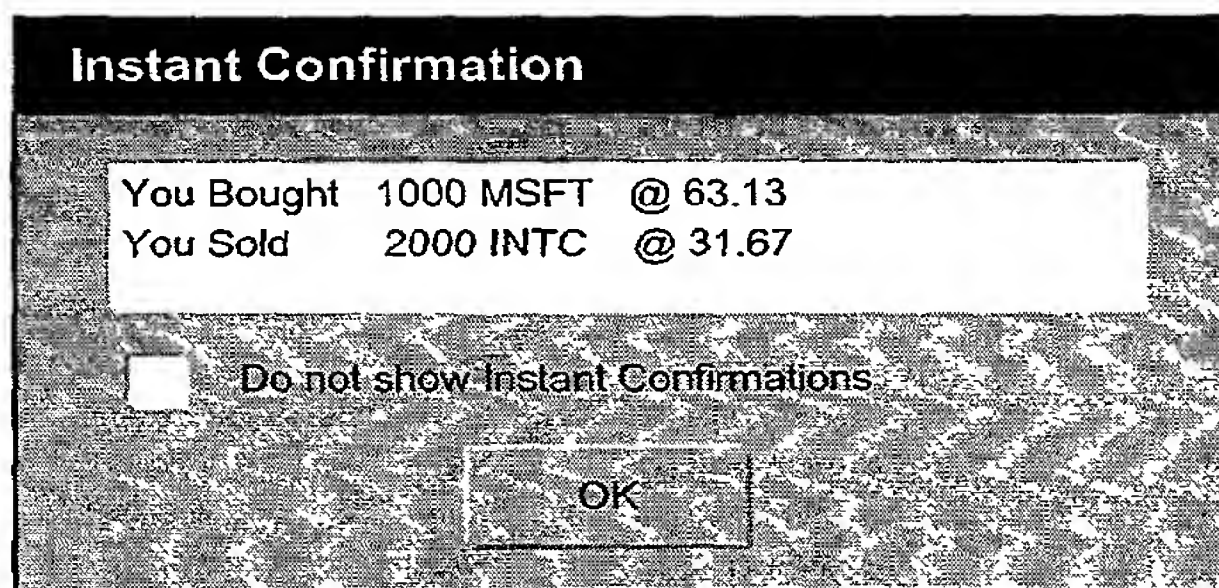


Figure 46

Instant Confirmation

Whenever the **Quick Fill** button (middle of LOB) or a **Trade** or "**Trade up to**" button (lower part of LOB) is clicked, an immediate confirmation is generated. The **Instant Confirmation** shows the amount of the buy-side security purchased and the amount of the sell-side security sold, along with the respective prices.

If an LOB offer is changing as it is clicked, the **Instant Confirmation** may not be for the amount of buy-side and sell-side securities that you intended to buy/sell. However, the following conditions are always satisfied: (1) you will always trade the buy-side and sell-side securities in the ratio indicated in the **Order Entry** screen, and (2) you will never trade more than the quantities indicated in the **Order Entry** screen.

When the Instant Confirmation is received, you no longer have an order pending. If you have not traded all of the quantity that you desired to trade, you must send an additional order by clicking again on the **Quick Fill** or **Trade** (or "**Trade up to**") buttons. The maximum quantities shown in the offers will reflect the amount of the original order that has already been traded.

Figure 47

Creating National Market Responses on the BarterSecurities Limit Order Book

To illustrate how national offers for a barter order are calculated, suppose you have just submitted the order:

BUY 1000 MSFT / SELL 2000 INTC.

Also assume that the national order books for INTC on the bid side and MSFT on the ask side are as shown in Tables 1A and 1B.

Table 1A INTC: National Bids	
Bid Price	Bid Size
27.00	200
26.99	500
26.98	500
26.97	1000

Table 1B MSFT: National Asks	
Ask Price	Ask Size
55.00	500
55.01	1000

Offer prices for your order (executed in a 2-1 ratio) as derived from the national markets for the single stocks, are shown in Table 2 in order of best to worst offer.

Table 2 National Offers for your Barter Order Buy 1000 MSFT / Sell 2000 INTC				
Row Number	Size (MSFT x INTC)	INTC Bid Price	MSFT Ask Price	Barter Offer Price (MSFT - 2 x INTC)
1	100 x 200	27.00	55.00	1.00
2	250 x 500	26.99	55.00	1.02
3	150 x 300	26.98	55.00	1.04
4	100 x 200	26.98	55.01	1.05
5	400 x 800	26.97	55.01	1.07

Based on the best MSFT offer of 500 shares (Table 1B), the system looks for 1000 shares on the INTC side. It finds only 200 INTC at the best price (Table 1A), so that only 100 MSFT can be matched with it (Table 2, row 1), leaving 400 MSFT offered at 55.00. The 400 MSFT at 55.00, requires 800 INTC, but there is only 500 INTC at the next price of 26.99 (Table 1A). It can be matched against only 250 MSFT at 55.00 (Table 2, row 2), leaving 150 MSFT at 55.00 that is still usable, and so on until there is enough depth to fill your order, or until the national books are exhausted.

In Table 2, the Barter Offer Price is the cost of trading the indicated piece of your order at each row's prices and sizes, and is expressed per 100 shares of the buy side, in this case MSFT.

Figure 48

Calculation of Savings from Internal Offers on the BarterSecurities Limit Order Book

Trading on the BarterSecurities system saves you money relative to the national markets. An illustration of this is given below.

Suppose you have just submitted the order:

BUY 1000 MSFT / SELL 2000 INTC.

Also suppose that the national market offers for your order are as is shown in Table 1 (see separate sheet). To see how these offers were calculated, [click here](#).

[Table 1]

Often, there are additional offers that are internal to the BarterSecurities system that will improve national markets by providing either more favorable execution prices, by providing a greater quantity to trade, or both. Certain offers may originate with professional marketmakers. Other internal offers may arise due to outstanding limit orders, either alone or in combination. For example, a limit order to buy INTC and sell CSCO, and a second order to buy CSCO and sell MSFT, may create an "implied" offer for an incoming barter order to buy MSFT and sell INTC. To learn more, see Order Matching.

Suppose that one marketmaker is willing to respond to your barter order by simultaneously buying 1000 INTC at 27.00 and selling 500 MSFT at 55.00, and that a second marketmaker is willing simultaneously to buy 1000 INTC at 26.99 and sell 500 MSFT at 55.01. In the form of the previous table, the marketmaker offers are expressed below.

Size (MSFT x INTC)	INTC Bid Price	MSFT Ask Price	Barter Offer Price (MSFT - 2 x INTC)
500 x 1000	27.00	55.00	1.00
500 x 1000	26.99	55.01	1.03

The offer prices for your barter order, updated to include the marketmaker offers, are shown in Table 2 (see separate sheet). Note that the second marketmaker's internal response is split into two rows (#4 and #5) because only the first row of the two is necessary to fill your order of 2000 INTC, 1000 MSFT.

[Table 2]

The introduction of internal offers represents savings to you, the customer. To compute these savings, which are shown in Table 3, the system compares the internal offers to the offers that would have been available for those same shares in the national markets. In Table 3 (see separate sheet) the first row shows that the first

[Table 3]

Internal offer of 500 shares (Table 2, row 2) takes the place of three national offers of varying share amounts (Table 2, rows 1, 3, and 6). That is, an offer of 1.00 replaces three national offers of 1.00, 1.02, and 1.04. The weighted national offer is 1.022 (i.e., $\$1.00 \times 100 + \$1.02 \times 250 + \$1.04 \times 150$), so the savings is \$11.00 ($500 \times \$0.022$). Similarly, the Internal offer of 1.03 (Table 2, rows 4 and 5) would have been traded at 1.05 and 1.07 in the national market (Table 2, rows 7 and 8), implying a savings of \$18.00 ($\$0.02 \times 100 + \0.04×400) on the BarterSecurities internal side. The total savings for your complete order is \$29.00.

Figure 49

Calculation of Savings from Internal Offers on the BarterSecurities Limit Order Book

Tables 1, 2, and 3

Table 1 National Offers for your Barter Order Buy 1000 MSFT / Sell 2000 INTC				
Row Number	Size (MSFT x INTC)	INTC Bid Price	MSFT Ask Price	Barter Offer Price (MSFT – 2 x INTC)
1	100 x 200	27.00	55.00	1.00
2	250 x 500	26.99	55.00	1.02
3	150 x 300	26.98	55.00	1.04
4	100 x 200	26.98	55.01	1.05
5	400 x 800	26.97	55.01	1.07

Table 2 BarterSecurities Offers for your Barter Order Buy 1000 MSFT / Sell 2000 INTC					
Row Number	Size (MSFT x INTC)	INTC Bid Price	MSFT Ask Price	Order Type	Barter Offer Price (MSFT – 2 x INTC)
1	100 x 200	27.00	55.00	National	1.00
2	500 x 1000	27.00	55.00	Internal	1.00
3	250 x 500	26.99	55.00	National	1.02
4	150 x 300	26.99	55.01	Internal	1.03
5	350 x 700	26.99	55.01	Internal	1.03
6	150 x 300	26.98	55.00	National	1.04
7	100 x 200	26.98	55.01	National	1.05
8	400 x 800	26.97	55.01	National	1.07

Table 3 Savings from Internal Order					
Buy-side Shares	<u>Internal Offers</u>		<u>National Offers</u>		Savings (1) x [(5) – (3)]
	Table 2 Rows	Share-weighted Barter Offer Price	Table 2 Rows	Share-weighted Barter Offer Price	
(1)	(2)	(3)	(4)	(5)	
500	2	1.00	1,3,6	1.022	\$11.00
500	4,5	1.03	7,8	1.066	\$18.00
Total					\$29.00

Figure 50

BarterSecurities Limit Order Entry

Buy 1000 MSFT
Sell 2000 INTC

Last
PAY \$960

Bid
PAY \$930

Ask
PAY \$1,000

Total Dollar Limit (before commissions)

☒ Pay no more than ☐ Receive at least \$ 850

Pay Only

☐ All or None
☐ Do not reduce
☐ Minimum sell-side shares:

Trade order only if--
☐ MSFT price is less than or equal to
☐ INTC price is less than or equal to

Dollar Limit Calculator

MSFT Price 54.95
INTC Price 27.05

Insert Dollar Limit

MSFT

Last 54.98
Chg +1.30

Bid 54.97

Ask 55.00

Size 500 x 500

INTC

Last 27.01
Chg +0.60

Bid 27.00

Ask 27.02

Size 200 x 1000

Submit

Save

Close

BarterSecurities Limit Order Entry

Buy 1000 MSFT
Sell 2000 INTC

Last
PAY \$960

Bid
PAY \$930

Ask
PAY \$1,000

Total Dollar Limit (before commissions)

☒ Pay no more than ☐ Receive at least \$ 850

Conditions >>>

Dollar Limit Calculator

MSFT Price 54.95
INTC Price 27.05

Insert Dollar Limit

MSFT

Last 54.98
Chg +1.30

Bid 54.97

Ask 55.00

Size 500 x 500

INTC

Last 27.01
Chg +0.60

Bid 27.00

Ask 27.02

Size 200 x 1000

Submit

Save

Close

Figure 51

BarterSecurities Market Order Entry

BUY 1000 MSFT • SELL 2000 INTC

☒ No price contingencies

☐ Execute Dual Market Order when buy side price touches

☐ Execute Dual Market Order when sell side price touches

Submit

Save

Cancel

Figure 52

Limit and Market Orders

Limit Orders

Usually, limit prices for a barter order are expressed in terms of a Total Dollar Limit for the order as a whole, rather than in terms of per-share limit prices for individual securities.

Consider the barter order to Buy 1000 MSFT and Sell 2000 INTC. Suppose a trader wants to net from this order the same amount as if MSFT traded at \$50 and INTC traded at \$26. This is equivalent to receiving \$2000; i.e., $[2,000 \times \$26 - 1,000 \times \$50]$. By setting the Total Dollar Limit to "Receive at least \$2000", the trader allows the trade to execute at any combination of per-share prices that satisfy the limit, such as (\$50/\$26), (\$52/\$27), (\$49/\$25.50), etc.

The Total Dollar "current market" is shown in the upper right corner of the Limit Order Entry screen under the headers Last, Bid, and Ask. These values are based on the markets in the individual securities shown at the bottom of the screen. Suppose the current single-stock markets are:

	Last	Bid	Ask
MSFT	54.98	54.97	55.00
INTC	27.01	27.00	27.02

Then, as explained below, the Total Dollar spread of a barter order,
BUY 1000 MSFT / SELL 2000 INTC
would be:

	Last	Bid	Ask
PAY \$960	PAY \$930	PAY \$1000	

The Total Dollar "Last" is based on the "Last" prices of the individual securities. That is, "PAY \$960" = $+1000 \times 54.98 - 2000 \times 27.01$. The Total Dollar Bid is based on buying MSFT on its bid and selling INTC on its ask; i.e., "PAY \$930" = $+1000 \times 54.97 - 2000 \times 27.02$. Normally you would not be able to trade at these prices immediately, but marketmakers might be able to do so. The Total Dollar Ask is based on buying MSFT on its ask and selling INTC on its bid; i.e., "PAY \$1,000" = $+1000 \times 55.00 - 2000 \times 27.00$. Normally you would be able to trade at these prices immediately.

Thus, a Total Dollar Limit of "Pay no more than \$850", is \$150 more favorable to you than the value at which you can trade immediately, and it is \$80 more favorable than the value at which marketmakers might be able to trade your order for themselves.

If you prefer to think about your Total Dollar Limit in terms of individual stock prices, you may use the **Dollar Limit Calculator** in the middle of the Limit Order Entry Screen. Enter two share prices and click the **Insert Dollar Limit** button to create your Total Dollar Limit.

Setting a Total Dollar Limit can produce the same dollar results for a barter order as setting per-share limits, but it is less restrictive. It is recommended because it produces a greater probability of getting a barter order executed. Per-share limits should be used only if you are sensitive to the trade price of one of the legs of the order. If you do wish to set a per-share limit price for one or both securities in your barter order click on **Conditions>>>**. An additional segment of the Limit Order Entry screen appears, which allows you to set per-share limit prices and to set timing and other options for your order.

Market Orders

The default market order is "No price contingencies", which means that your order will be delivered as soon as you submit and confirm it. Alternatively, you may place a per-share price contingency on the delivery of the order. Upon submitting the order the system will ask you to confirm your order currently, but the order will not be delivered to the market until the indicated price contingency is satisfied. If and when the order is delivered to the market, it will behave like two traditional market orders: one for the buy leg and one for the sell leg.

Figure 53

The BarterSecurities system provides a toolkit which allows marketmakers to

- **measure the attractiveness** of any incoming barter order,
- specify how aggressively or passively to **respond** to it, either manually or automatically, using customized rules, and
- **Isolate the profit and loss impact** of each decision rule on a real-time basis.

Each rule that a marketmaker composes consists of a set of **conditions** and a set of **price and size tiers** which define the responses to a barter order if the conditions are satisfied.

For example, conditions might filter for particularly attractive barter orders with the buy- and sell- legs in roughly equal dollar amounts, having high liquidity, and coming from the same industry. A marketmaker can choose to show an automatic response to these types of orders at the corresponding NBBO price reduced by, say, 20% of the NBBO spread, for the current NBBO size. (Note that at the time that a response to an order is made, marketmakers know which security is being bought and which security is being sold.)

Marketmakers can customize **trade tickers, or position and P&L reports** to give them exactly the information they need on a real-time basis. Each report is associated with a **data source**, so that a P&L report may be constructed for only the securities in a defined symbol list, or only the trades that were invoked by a selected rule, etc.

Figure 55

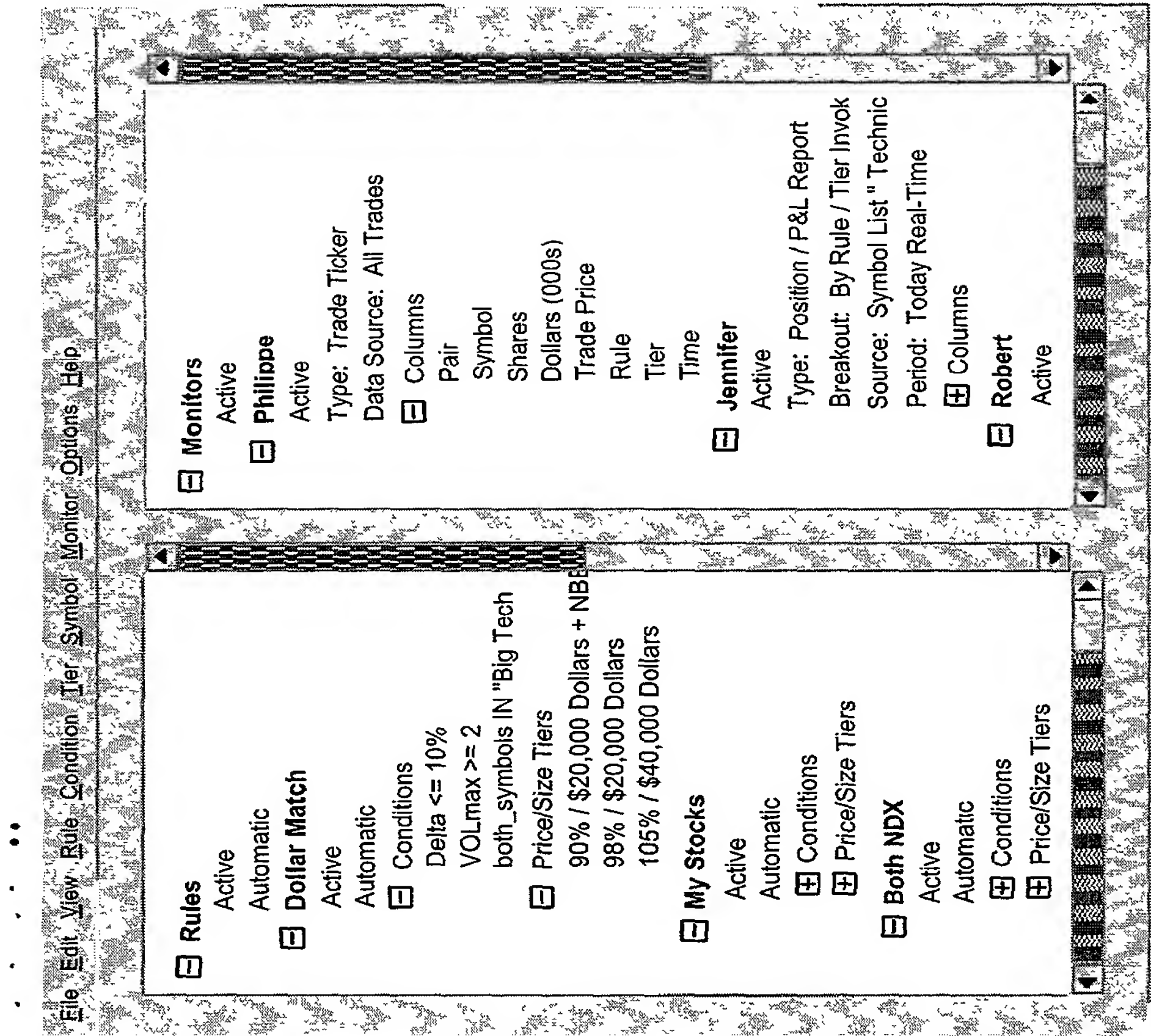
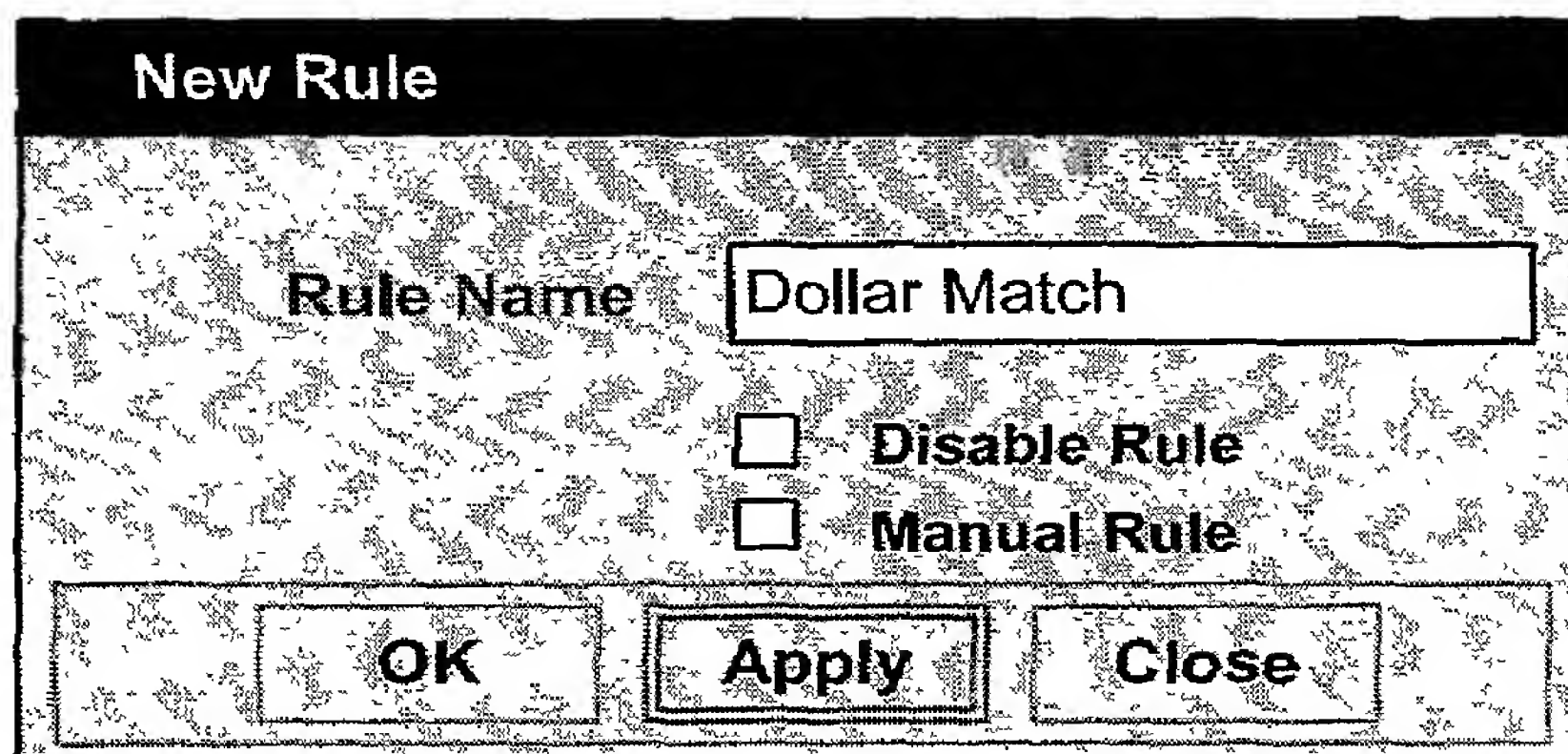


Figure 54



The image shows a dialog box titled "New Rule". It has a "Rule Name" label followed by a text input field containing "Dollar Match". Below this, there are two checkboxes: "Disable Rule" and "Manual Rule", both of which are currently unchecked. At the bottom of the dialog box, there are three buttons: "OK", "Apply", and "Close".

Figure 56

To create a rule, select **New...** from the **Rule** menu of the Marketmaker Toolkit. In the **New Rule** pop-up screen, enter the name of your rule, and choose whether to disable the rule or to make the rule manual.

Only Active rules are used to respond to barter orders. A rule can be activated or disabled at any time by right-clicking the rule name in the Toolkit and selecting the appropriate attribute. Disabled rules are dimmed in the Toolkit window.

All active rules produce automatic responses to barter orders if the rule's conditions are satisfied, unless you choose to respond manually. Responses to orders can be toggled from automatic to manual by right-clicking the rule name and selecting the appropriate attribute.

Figure 57

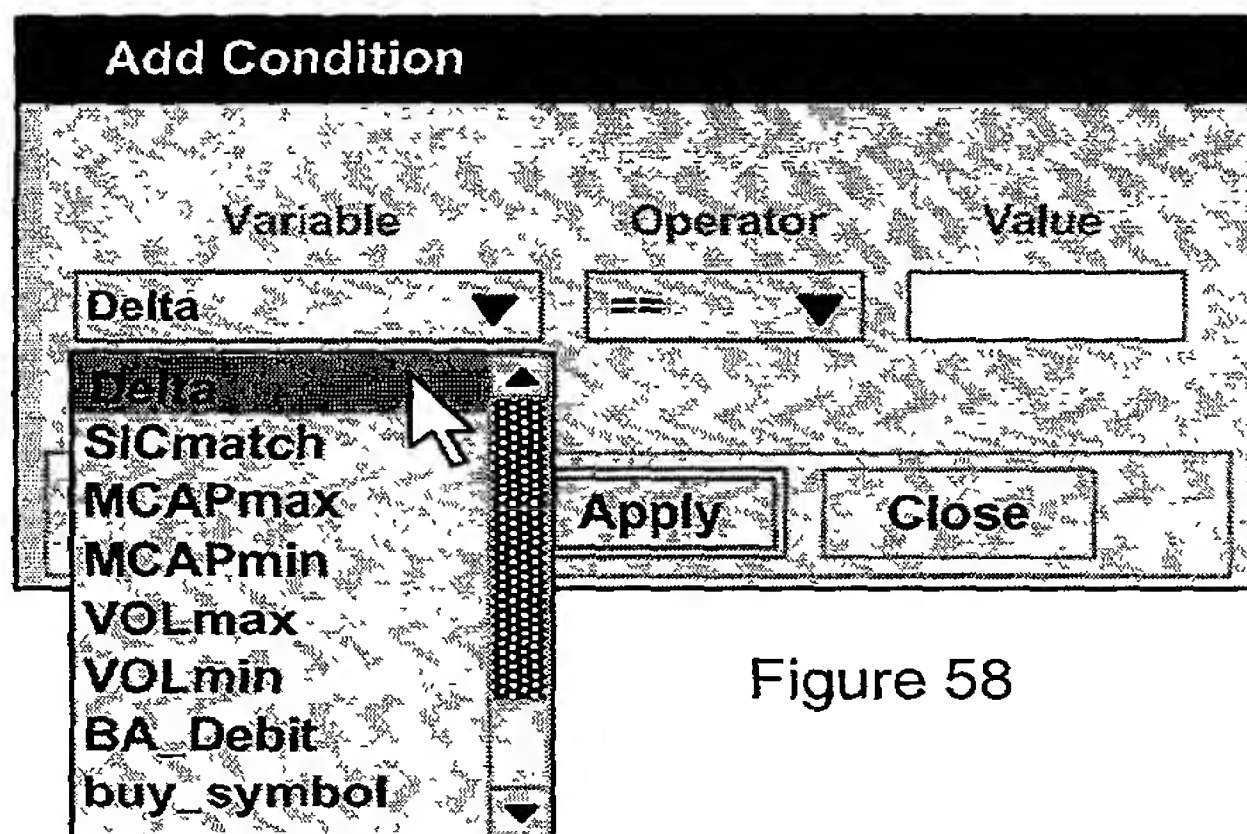


Figure 58

To create a set of conditions for a rule first click on the rule to select it. Then select **New...** from the **Condition** menu. In the **Add Condition** pop-up screen, choose a **Variable** and an **Operator** and enter a **Value** to define the condition.

Variables are keywords that define characteristics of the barter order such as (1) closeness of the buy-side and sell-side dollar amounts, (2) industry closeness of the two legs, (3) volumes, (4) market capitalizations, etc. Additionally, marketmakers can use variables to test for inclusion in default symbol lists, such as the S&P500, or in symbol lists that they define using the **Symbol** menu in the Toolkit.

Operators are usually equality and inequality signs, but change to <IN> and <NOT IN> when a variable is testing for inclusion in a symbol list.

An example of a condition is:

Delta < 10%,

where Delta is a measure of the closeness of the buy-side and sell-side dollar amounts. A delta of 10% means that the dollar amounts of the two barter order legs differ by 10% of the greater amount.

Another example of a condition is:

buy_symbol IN "Big Tech",

where "Big Tech" is the name of a symbol list that the user has defined.

Figure 59

Definitions of Variables and Allowable Value Ranges.

Examples

Variable	Definition	Range (units)
Delta	$\text{abs}(\$long - \$short) / (\max(\$long, \$short))$	0-100%
SICmatch	Number of SIC code digits of buy and sell that match, starting from left.	0,1,2,3,4
MCAPmax	Market Cap of larger-cap stock	(\$bil)
MCAPmin	Market Cap of smaller-cap stock	
VOLmax	Avg Daily \$-volume traded, last 30 days, of more-active stock.	(\$mil)
VOLmin	Avg Daily \$-volume traded, last 30 days, of less-active stock.	
BA_Debit	Debit value of bid/ask spread of Barter Order on NYSE and Nasdaq inside prices.	(Dollars)
The following variables are used to check for inclusion in a Symbol List.		
buy_symbol	Symbol of the incoming order's buy-side security.	(List Name)
sell_symbol	Symbol of the incoming order's sell-side security.	(List Name)
both_symbols	The set of two incoming security symbols.	(List Name)
one_symbol	At least one of the incoming security symbols.	(List Name)
The following variables are used to query a marketmaker's portfolio status.		
Inventory_Buy_Shs	The number of shares of the incoming sell-side security (i.e., the MM is buying) currently in the MM portfolio.	(Shares)
Inventory_Sell_Shs	The number of shares of the incoming buy-side security (i.e., the MM is selling) currently in the MM portfolio.	(Shares)
Inventory_Buy_Val	The dollar value of the incoming sell-side security (i.e., the MM is buying) currently in the MM portfolio.	(Dollars)
Inventory_Sell_Val	The dollar value of the incoming buy-side security (i.e., the MM is selling) currently in the MM portfolio.	(Dollars)

Figure 60

Examples of Variable usage.

'Delta' measures the dollar amount of exposure of the Barter Order. If the retail trader's buy side debit is \$100,000 and the sell side credit is \$75,000, the **delta** is

$$25\% = |100000 - 75000| / \max(100000, 75000).$$

'SICmatch' shows how industry-related two stocks are. Matched digits are counted from the left until a match fails, after which remaining digits do not count.

SIC #1	SIC #2	SICmatch
4013	4031	2
2631	4031	0.

MCAPmax and MCAPmin measure market capitalization of the bigger and smaller stock, respectively. To ensure that both stocks' market cap exceeds \$1 billion, enter "MCAPmin >= 1". To ensure that at least one stock's market cap exceeds \$10 billion, enter "MCAPmax >= 10".

VOLmax and VOLmin measure the dollar volume of the more- and less-active stock, respectively. To ensure that both stocks trade at least \$2 million per day, on average, enter "VOLmin >= 2". To identify trades in which neither stock trades more than \$2 million per day, on average, enter "VOLmax <= 2".

BA_Debit is the dollar width of a Barter Order on the NBBO market. If a retail trader wishes to buy 100 ABC on the NBBO market 50-50.25 and sell 300 XYZ on the NBBO market 20-20.10, then the dollar size of the spread is \$55, or $100 \times 0.25 + 300 \times 0.10$.

'Symbol' variables allow the marketmaker to identify whether stock symbols fall in marketmaker-created lists. Suppose the marketmaker sets the symbol list below:

List_1: IBM, CPQ, DELL, SUNW, HWP

To ensure that at least one of the Barter Order symbols falls in the list, enter

$$\text{one_symbol IN List_1.}$$

To ensure that neither Barter Order symbol falls in the list, enter

$$\text{both_symbols NOT IN List_1.}$$

Use "Inventory" variables to test a marketmaker's portfolio. To test whether a portfolio is short the security that the marketmaker is buying, enter

$$\text{inventory_buy_shs} < 0.$$

Figure 61

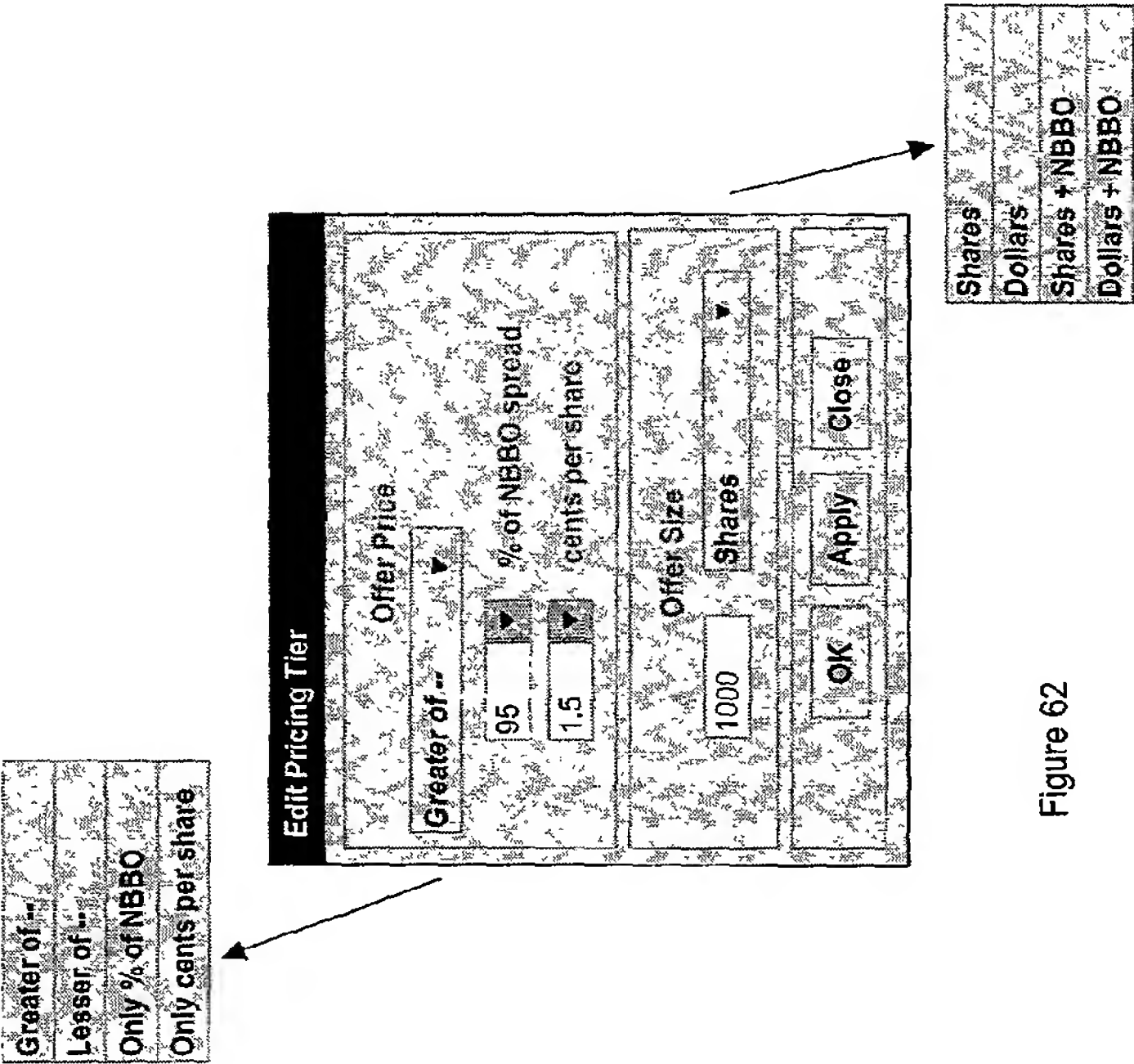


Figure 62

Use **Price/Size Tiers** to create a set of responses to barter orders that satisfy the conditions of a certain rule.

To create the response tiers first click on a rule to select it. Then select **New ...** from the **Tier** menu. In the **Add Price/Size Tier** pop-up screen choose an **Offer Price** and an **Offer Size**. (A marketmaker response to a barter order is referred to as an "offer", although both a single-stock bid and a single-stock offer are implied. At the time that the offer is made, a marketmaker knows which security is being bought and which is being sold.)

An offer price may be expressed as a percentage of the current National Best Bid and Offer (NBBO) spread, in incremental cents per share, or as the greater or lesser of those two quantities. For example, suppose an incoming barter order is:

Buy 1000 ABCD

Sell 2000 WXYZ.

and suppose the NBBO markets are:

	Bid	Offer
ABCD	52.02	52.05
WXYZ	24.01	24.03.

The NBBO dollar spread for the barter order is \$70.00; i.e., $1000 \times 0.03 + 2000 \times 0.02$. Therefore, a barter offer price of 90% implies a spread of \$63.00. A marketmaker who offers at 90% would be willing simultaneously to buy WXYZ on the bid and sell ABCD at 52.043 . ($\$63 = 1000 \times 0.023 + 2000 \times 0.02$.)

An offer size is expressed either in shares or dollars, either alone or in addition to the current NBBO depth. An offer size of \$20,000 means that each leg of a barter order may be traded up to that amount.

Marketmakers can attach any number of price/size tiers to a given rule.

Figure 63

Trade Tickers produce in real-time a new line of information for each of the marketmaker's automatic and manual trades.

Marketmakers can create different tickers based on multiple **Data Sources**. For example, one ticker might show the trades for all stocks within a certain user-defined symbol list, while another ticker might show all trades prompted by a selected trading decision rule.

Marketmakers also can select the **Columns** that they want the ticker to show, such as shares traded and trade price, and the rule that invoked a trade. The column **Pair** indicates which trades in a Trade Ticker were executed as part of the same barter order. Certain trades in a Trade Ticker may appear without the corresponding legs of their barter orders since the data source of the ticker excludes one leg. For example, a data source of Nasdaq 100 stocks would exclude IBM from a ticker in the case of a MSFT vs. IBM barter order. In this case, right-clicking on the unmatched trade in the ticker allows a marketmaker to access the trade's "sibling".

Marketmakers can modify, delete, or move Trade Ticker columns by using the Monitor menu, by clicking and dragging column items within the toolkit window, or by right-clicking on the columns in the Trade Ticker screen. Marketmakers can retrieve snapshot P&L information on one or more trades by right-clicking on a trade ticker row.

Figure 66

Create Ticker

Ticker Name:Philippe

Data Source:
(Choose one)

All Trades

Trades with one symbol

Trades from symbol list:Big Tech

Trades invoked by rule:

Trades invoked by rule:rule

tier:

Columns:
(Choose one or more)

Pair

Symbol

Share quantity

Dollar Value

Trade Price

Rule invoked

Price tier

Time stamp

OK

Cancel

Figure 64

Trade Ticker

Name: PHILIPPE

Data Source: Symbol List "Big Tech"

Pair	Symbol	Shares (000's)	Dollars	Trade Price	Rule	Tier	Time
I	MSFT	-500	44	73.02	BolINDX	89%	9:35:01
XX	NTC	-1200	45	37.12	BolINDX	89%	9:35:01
	GSCO	-1000	24	23.55	MyStocks	97%	9:38:15
	INTG	+200	7	37.02	DollarMatch	90%	9:42:51

Right-clicking

This Trade Snapshot P&L

All Trades Snapshot P&L

Figure 65

Figure 65

Create Position / P&L Report

Report Name:

Report Breakout
(Choose one)

☐ By stock symbol

☐ By rule invoked

☐ By rule and tier invoked

☐ Show totals only

Data Source
(Choose one)

☐ All Trades

☐ Trades with one symbol:

☐ Trades from symbol list:

☐ Trades invoked by rule:

☐ Trades invoked by rule:

tier:

Time Period
(Choose one)

☐ Today, real-time

☐ Hours, today: hhmm to hhmm

☐ Prior dates: mmdyy to mmdyy

☐ Inception to date

Columns:
(Choose one or more)

☐ Share Inventory

☐ Dollar Inventory

☐ No. of Trades

☐ Total P&L

☐ Realized P&L

☐ Unrealized P&L

☐ Rule Invoked

☐ Price Tier Invoked

OK

Cancel

Figure 67

Marketmaker Position and P&L

Name: JENNIFER

Breakout: By Rule / Tier Invoked

Source: Symbol List "Technical Buy"

Period: Today / Real-time

Dollars in 000's

Rule	Tier Price	Dollar Inventory	Total P&L	Realized P&L	Unrealized P&L
ALL	ALL	300	18	10	8
Dollar Match	ALL	(1,200)	13	8	5
	90%	1,000	8	3	5
	93%	(1,000)	4	2	1
	105%	800	1	2	(1)
My Stocks	ALL	(900)	8	1	7
	95%	1,200	6	1	5
	100%	(2,100)	2	0	2
Both NDX	ALL	2,400	(3)	1	(4)
	95%	400	(2)	(1)	(1)
	99%	700	(3)	1	(4)
	104%	1,300	2	1	1

Figure 68

A Position and P&L Report (PPL) shows the cumulative share and/or dollar inventory along with profit & loss calculations, for all of the marketmaker's automatic and manual trades. Multiple PPLs may be created and viewed simultaneously. The information in these reports may be grouped ("**Report Breakout**") as the user desires, and the trades which comprise these reports may be a chosen subset ("**Data Source**") of all trades.

For example, the user may have P&L grouped and summarized by security symbol, or according to the trading decision rule or rule/tier combination which invoked each trade. The data source can be a subset of stock symbols (designated by a Symbol List name), or it can be all trades invoked by a Marketmaker Toolkit rule or rule/tier combination. Therefore, marketmakers can monitor on a real-time basis the profit and loss contribution of each decision rule and price/size tier that they create. This gives them incredible insight into the productivity of their rules and allows them to improve profitability over time.

Share and dollar inventories of securities, and realized, unrealized, and total P&L's can be generated either on a real-time basis or for historical periods. Report **Columns** can be chosen, modified, and moved as they are for Trade Tickers.

Any row in a Position and P&L Report can be right-clicked to generate a new report of individual trades that comprise the row.

Figure 70

Marketmaker Position and P&L				
Name: ROBERT				
Breakout: By Symbol				
Source: Symbol List "Big Tech"				
Period: Today / Real-time				
Dollars in 000's				
Symbol	Share Inventory	Total P&L	Realized P&L	Unrealized P&L
ALL		18	10	8
CSGO	(2,200)	3	2	1
INTC	(1,000)	4	5	(1)
JDSU	(3,000)	(2)		
MSFT	(800)	6		
SEBL	(1,200)	4	(2)	6
SUNW	(2,100)	3	1	2

Figure 69

BarterSecurities Request for Manual Offer

Incoming Order

Buy 1000 MSFT
Sell 2000 INTC

MSFT + \$55,000
INTC - \$54,000

Delta 1%

View Level II

Modify Defaults

Offer Size

1000 500 100 50

MSFT

500

1000

INTC

500

1000

Full Size

Offer Price

Last	Chg	Bid	Ask	Size
MSFT	+1.30	54.98	55.00	500 x 500
INTC	+0.80	27.00	27.02	200 x 1000

Buy on real-time bid

Sell on real-time ask

plus minus

0.1 cents

0.1 0.5 1.0

Offer

Time Remaining 15

Stop

Figure 71

BarterSecurities Edit Manual Offer Defaults

General

Timeout seconds begins at 15

☐ View Level II automatically

Offer Size

☐ Use Marketmaker Toolkit price/size tiers

☒ Maximum number of shares, either leg = 1000

☐ Maximum number of dollars, either leg = \$

☐ Round dollars up to next higher round lot

☐ Round dollars down to next lower round lot

Offer Price

☐ Use Marketmaker Toolkit price/size tiers

☒ Offer inside NBBO, in cents, by 0.1

☐ Offer outside NBBO, in cents, by

☒ Allow variable Ask Price

☐ Allow variable Bid Price

☐ Allow variable Bid and Ask Prices

OK

Reset

Cancel

Figure 72

BarterSecurities Request for Manual Offer

The BarterSecurities Marketmaker Toolkit lets you define rules that automatically generate one or more offers on the Limit Offer Book for an incoming barter order when predefined conditions are met. However, you may specify in the rule that when the stated conditions are met, you are to be alerted so that you can make a manual response to the order rather than having offers generated automatically.

When the BarterSecurities Request for Manual Offer screen appears, you can review the incoming order and then (1) deliver an offer according to the price and size defaults that you set, (2) deliver an offer after modifying the price and/or size defaults, (3) close the screen manually without delivering an offer, or (4) let the screen close automatically, after a stipulated number of seconds, without delivering an offer. *Note that as long as the countdown clock is running, the sender of the incoming order will be aware that a manual offer is pending and may be delivered.*

The BarterSecurities Request for Manual Offer screen is partitioned into four sections from top to bottom: (1) Incoming Order, (2) Offer Size, (3) Offer Price, and (4) Action.

Incoming Order

On the left is the incoming order expressed as it was entered; that is, *the marketmaker may take the other side of the trade*. In the following discussion, the term "buy-side" ("sell-side") refers to the security that the sender is buying (selling) and that the marketmaker may sell (buy). The dollar values of both the buy-side and sell-side securities are shown, along with the **Delta** of the trade. The smaller the delta, the closer together are the buy-side and sell-side dollar values. A delta of zero implies that the dollar values match. A delta of one implies that the barter order is almost one-sided.

The marketmaker may click the **View Level II** button to view real-time Level II quotes for the buy- and sell-side securities. The marketmaker may click the **Modify Defaults** button to change how the default Offer Size and Offer Prices are determined when the Request for Manual Offer screen pops up.

Offer Size

An offer size for the incoming barter order is calculated based on either (1) the price/size tiers stipulated in the Marketmaker Toolkit, or (2) the defaults that you specify in the Edit Manual Offer Defaults screen. The quantities in the offer size are always in the same ratio as the quantities in the incoming order. If you wish, you may change the initial size by (1) clicking the size increment/decrement buttons, (2) by typing in a new size in the buy-side or sell-side fields (the opposite size is changed to retain the incoming share ratio), or (3) clicking the **Full Size** button, which causes the offer size to become the same as the incoming order size.

Offer Price

An offer price for the incoming barter order is calculated based on either (1) the price/size tiers stipulated in the Marketmaker Toolkit, or (2) the defaults that you specify in the Edit Manual Offer Defaults screen. If you wish, you may change the initial offer price by (1) clicking the price increment/decrement buttons, or (2) by typing in a new value in the available field.

Action

At any time, you may (1) click the green **Offer** button to send your offer as stated, (2) click the red **Cancel** button to close the screen without sending an offer, or (3) click the **Stop** button to stop the rundown clock. If you make none of these actions, the screen will close automatically when the clock has run down to zero.

Figure 73

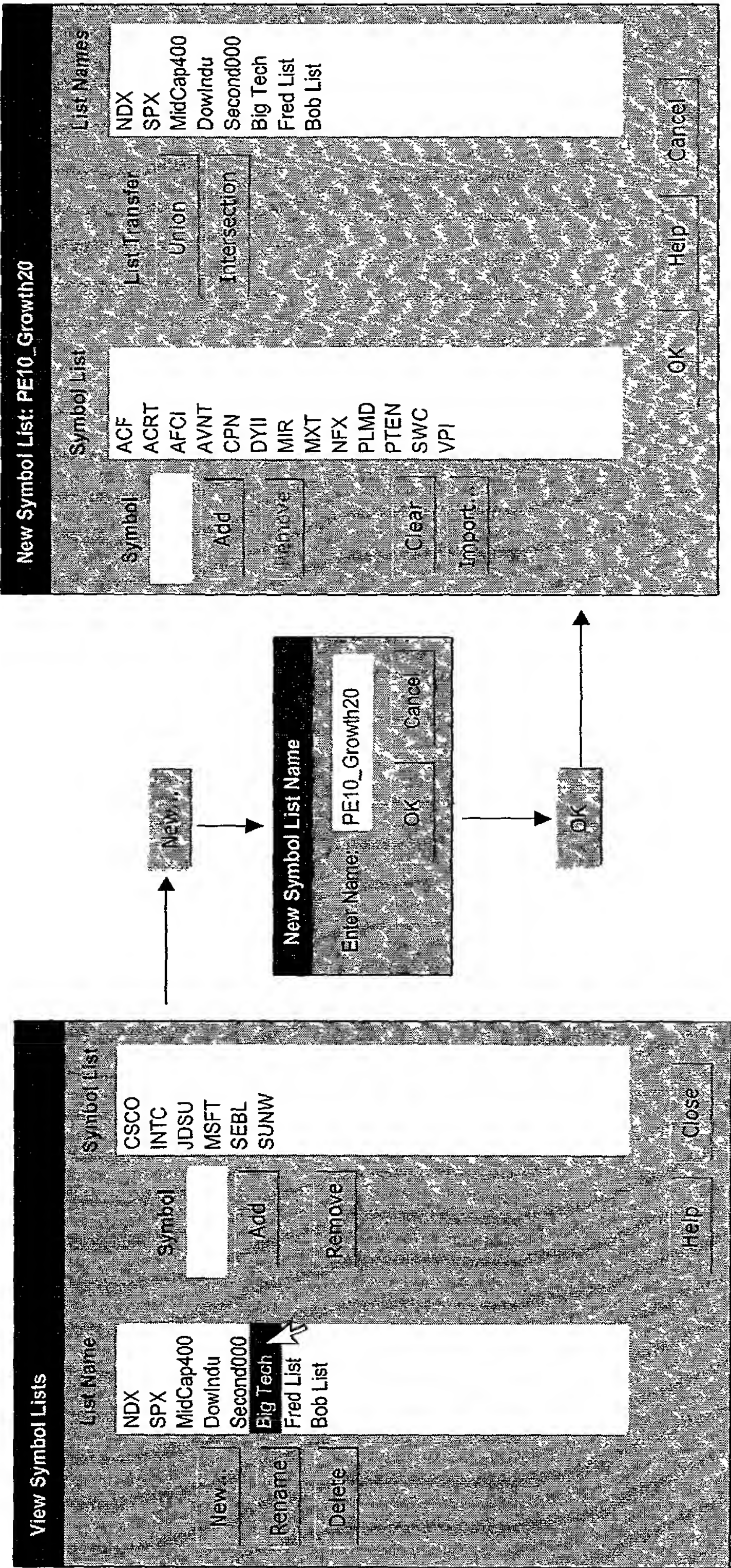


Figure 74

View Symbol Lists

New

Click **New** to create a new symbol list. A pop up screen requests the name of the new symbol list.

Rename

Select a symbol list name and click **Rename** to rename a symbol list while keeping its symbols intact. To base a new symbol list on the symbols in an existing list, use the **New...** function.

Delete

Select a symbol list name and click **Delete** to remove the list name, along with its symbols.

Add

Fill in the **Symbol** field and click **Add** to add one symbol to the selected symbol list.

Remove

Select a symbol from the **Symbol List** column and click **Remove** to remove the symbol from the selected symbol list.

Figure 75

New Symbol List

Add

Fill in the **Symbol** field and click **Add** to add one symbol to the new symbol list.

Remove

Select a symbol from the **Symbol List** column and click **Remove** to remove the symbol from the new symbol list.

Clear

Click to remove all symbols from symbol list.

Import

Click to copy a symbol list from another application.

Union

To add the symbols from an existing symbol list to the symbols in the **Symbol List** column, select one or more names from the **List Names** column and click **Union**. Duplicate symbol names will be removed from the new list.

Intersection

To create a new list from symbols that are common to the symbols in the **Symbol List** column and the symbols in one or more existing lists, select the names from the **List Names** column and click **Intersection**.

Figure 76

ELECTRONIC BARTERING SYSTEM WITH FACILITATING TOOLS

RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Patent Application No. 60/271,541 filed Feb. 26, 2001, U.S. patent application Ser. No. 09/454,035 filed Dec. 03, 1999, U.S. Provisional Patent Application No. 60/161,318, filed Oct. 25, 1999, U.S. Provisional Patent Application No. 60/153,142, filed Sep. 9, 1999, and U.S. Provisional Patent Application No. 60/147,243, filed Aug. 5, 1999, each being herein incorporated by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to systems and methods for facilitating the trading of items or securities and more particularly to systems and methods for facilitating the electronic bartering of items or securities.

BACKGROUND

[0003] Automated computer systems matching buy and sell orders for trading stocks, futures and other properties are well known in the art. An example of such a system is shown in U.S. Pat. No. 3,573,747 to Adams, et al., which discloses a system for matching buy and sell orders for fungible properties between traders. After the initial match, one embodiment of this system allows traders to negotiate other terms of the transaction while all traders are continuously apprised of the negotiation status. A system disclosed in U.S. Pat. No. 4,412,287 to Braddock relates to trading stock and discloses a central computer that matches buy and sell orders from a plurality of user terminals. U.S. Pat. No. 5,689,652 to Lupien, et al. shows a computer network with a plurality of trader terminals that matches buy and sell orders incorporating a satisfaction density profile. The density profile provides a measure for maximizing the mutual satisfaction of all traders.

[0004] Computer systems to match bids and offers are also well known in the art. A system disclosed in U.S. Pat. No. 4,903,201 to Wagner matches bids and offers for future commodity contracts and detects illegal trade practices. U.S. Pat. No. 5,727,165 to Ordish, et al., discloses a network system and further provides confirmation timing and notification messaging to traders. In U.S. Pat. No. 5,924,082 to Silverman, et al., a negotiated matching system is shown which matches bids and offers based on a criteria that includes "ranking" data. The ranking data is comprised of credit and risk information to facilitate the best matches with respect to risk management. Another aspect of this system permits traders to negotiate directly with each other prior to or after an initial match is made by the system. The system of U.S. Pat. No. 5,926,801 to Matsubara et al. also matches bids and offers, and in one embodiment, credit criteria is considered in the match.

[0005] A computer system disclosed in U.S. Pat. No. 5,873,071 to Ferstenberg, et al. includes an intermediary computer program and an electronic agent computer program which can operate over the Internet. The intermediary computer program mediates offers and counter-offers for financial commodities. Goals, expressed as either a set of computer rules or as an objective with constraints, are set by the participants and the electronic agent computer program

generates counter-offers according to the goals in response to offers from the intermediary computer program. In one embodiment of the system, a calculated "fairness measure" is used to determine satisfaction of the participants goals.

[0006] None of these patents address a bartering, exchanging or selling system whereby an individual trader constructs a barter order by establishing trading parameters that include an item to be bartered and a desired item to be received. Accordingly, none of these systems characterize potential barter exchanges in a quantifiable manner for an individual trader. The known electronic systems also fail to provide a means for assisting traders in the selection of trading items from that trader's portfolio of financial instruments.

SUMMARY OF THE INVENTION

[0007] The present invention relates to a computer-based system for bartering, exchanging or selling, (hereinafter referred to as bartering), items or securities including but not limited to, stock, cash (foreign or domestic currencies), web barter dollars (defined below), Himmelstein Options (defined below), CD's, bonds, notes, Option Put, Option Call, Commodities/Futures, Annuities, Muni Bond(s), Government Bonds, Funds, Strips (Zero Coupon Treasuries), Ginnie Mae(s), Fannie Mae(s), Freddie Mac(s), UIT (Unit Investment Trust), T-bills and any future created or defined security, commodity or commodity money wherein a barter order indicating the item to barter and the desired barter item are matched by the website. Barter transactions are made which combine a barterer's barter order with a matching order or combination of orders which the barterer selects or the barterer has automatically selected by the website. Barter transactions can incorporate agreements. One agreement, termed a Himmelstein Option, permits barterers to agree to a future range of dates: a date after the barter transaction may occur and a date before the barter transaction must occur or the rights of ownership may expire. These dates may be the same. The before date may be indefinite. Himmelstein's Options (i.e. the portion of the barter transaction that is to be acquired) may be sold for cash or bartered (i.e. assign their rights or transfer their rights for a different security). In other words, the Himmelstein Option agreement, once acquired may be assigned without the written consent of the issuer/creator. This means that acquirer may transfer his rights to acquire the security or other item, which is the subject of a Himmelstein Option to someone else. Himmelstein options also include other conditions or parameters in the agreement as well.

[0008] The electronic bartering system of the present invention includes tools for facilitating the function of the system users. Provided with the present invention are toolkits for market makers to set automated and manual trading rules, toolkits for market makers to generate customized stock trade ticker lists and profit and loss statements, and toolkits for users to establish basket and contingency barter orders.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a diagram of a bartering system in accordance with the teachings of the present invention.

[0010] FIG. 2 is a schematic diagram of the structure of an example barter database and barter order in accordance with the teachings of the present invention.

[0011] FIG. 3 is a schematic diagram of a multi-order barter transaction in accordance with the teachings of the present invention.

[0012] FIGS. 4A-4E are flowcharts of a typical barter ordering session and barter transaction in accordance with the teachings of the present invention.

[0013] FIGS. 5A-5F are portions of screen displays illustrating the creation of a sample barter order in accordance with the teachings of the present invention.

[0014] FIG. 6 is an example of a barter transaction screen in accordance with the teachings of the present invention.

[0015] FIGS. 7A-7E are schematic illustrations of several different types of barter transactions which may be implemented according to the teachings of the present invention.

[0016] FIG. 8 is a schematic diagram of the components of a barter posting module in accordance with the teachings of the present invention.

[0017] FIGS. 9A and 9B are tables illustrating general and specific parameters for classes of barter items that are preferably utilized in a barter system made using a Himmelstein Option in accordance with the teachings of the present invention. Specifically, the "barter/settlement date, open/close" column in the tables is a condition or parameter included in the Himmelstein Option.

[0018] FIG. 10 is a block diagram showing the bartering system of FIG. 1 and further including market order, basket order and contingency order toolkits;

[0019] FIG. 10A is an alternate embodiment of the present invention.

[0020] FIG. 11 is a copy of a graphical user interface for a computer screen by which a user can request current trade prices for a barter order;

[0021] FIG. 12 is a copy of a graphical user interface for a computer screen by which barter order trade prices, responsive to a barter order trade price request, can be reported to a user;

[0022] FIG. 13 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 12;

[0023] FIG. 14 is a copy of another user help request screen for use by a user in interpreting the GUI of FIG. 12;

[0024] FIG. 15 is a copy of a graphical user interface for a computer screen by which a user can request an execution of a barter order;

[0025] FIG. 16 is a copy of a graphical user interface for a computer screen by which a marketmaker can establish automatic rules for responding to barter order requests and orders;

[0026] FIG. 17 is a copy of a graphical user interface for a computer screen by which a marketmaker can select pre-established symbols to be used in setting up automated rules;

[0027] FIG. 18 is a copy of a user help request screen for use by a marketmaker in interpreting the GUIs of FIGS. 16 and 17;

[0028] FIG. 19 is a copy of another user help request screen for use by a marketmaker in interpreting the GUIs of FIGS. 16 and 17;

[0029] FIG. 20 is a copy of another user help request screen for use by a marketmaker in interpreting the GUIs of FIGS. 16 and 17;

[0030] FIG. 21 is a copy of a graphical user interface for a computer screen by which a user can define a contingent barter order;

[0031] FIG. 22 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 21;

[0032] FIG. 23 is a copy of another user help request screen for use by a user in interpreting the GUI of FIG. 21;

[0033] FIG. 24 is a copy of a graphical user interface for a computer screen by which a user can define a contingent barter order;

[0034] FIG. 25 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 24;

[0035] FIG. 26 is a copy of a graphical user interface for a computer screen by which a user may define a basket of orders for a barter offer;

[0036] FIG. 27 is a copy of a user help request screen showing a 'drop down' menu for use with the screen of FIG. 26 by which a user can select a method for quantifying the basket barter order;

[0037] FIG. 28 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 26;

[0038] FIG. 29 is a copy of a user help request screen showing a 'drop down' menu for use with the screen of FIG. 26 by which a user can select symbols to use in defining the basket barter order;

[0039] FIG. 30 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 29;

[0040] FIG. 31 is a copy of a graphical user interface for a computer screen by which a user can define the filters used in establishing a basket barter order in the GUI of FIG. 26;

[0041] FIG. 32 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 31;

[0042] FIG. 33 is a copy of an alternate graphical user interface for a computer screen by which a user, directly through the illustrated graphical user interface and/or the linked graphical user interfaces described in the Figures below, can interface the barter order system of the present invention;

[0043] FIG. 34 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 33;

[0044] FIG. 35 is a copy of a graphical user interface for a computer screen, accessible through the selection of the "Order History" tab of the graphical user interface of FIG. 33, by which a user can review order histories;

[0045] FIG. 36 is a copy of a graphical user interface for a computer screen, accessible through the selection of the "Saved Orders" tab of the graphical user interface of FIG. 33, by which a user can review saved orders;

[0046] FIG. 37 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 33, by which a user can enter orders;

[0047] FIG. 38 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 37;

[0048] FIG. 39 is a copy of a graphical user interface for a computer screen, accessible through the "Trade From Order Book" button of the graphical user interface of FIG. 37, by which a user can trade orders;

[0049] FIG. 40 is a copy of a graphical user interface for a computer screen, accessible through a button in the user interface FIG. 39, by which a user can obtain level II stock quotes;

[0050] FIG. 41 is a copy of a graphical user interface for a computer screen, accessible through a button in the graphical user interface FIG. 39, by which a user can obtain internal and external order information;

[0051] FIG. 42 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 39;

[0052] FIG. 43 is a copy of a user help request screen for use by a user in interpreting the GUIs of FIGS. 40 and 41;

[0053] FIG. 44 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 39;

[0054] FIG. 45 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 39;

[0055] FIG. 46 is a copy of a graphical user interface for a computer screen, responsive to the operation of the "Quick Fill" button in the graphical user interface of FIG. 39, by which a user can obtain order execution confirmation information;

[0056] FIG. 47 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 46;

[0057] FIG. 48 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 39;

[0058] FIGS. 49 and 50 are copies of user help request screens for use by a user in interpreting the GUI of FIG. 39 and in particular for calculating savings from using the present system;

[0059] FIG. 51 is a copy of a graphical user interfaces for a computer screen, accessible through the graphical user interface FIG. 37, by which a user can enter limit orders;

[0060] FIG. 52 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface FIG. 37, by which a user can enter market orders;

[0061] FIG. 53 is a copy of a user help request screen for use by a user in interpreting the GUIs of FIGS. 51 and 52;

[0062] FIG. 54 is a copy of a graphical user interface for a computer screen, accessible through the dropdown tool menu "Rules" option in the graphical user interface of FIG. 33, by which a user can access a marketmaker toolkit;

[0063] FIG. 55 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 54;

[0064] FIG. 56 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 55, by which a user can establish a trading rule;

[0065] FIG. 57 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 56;

[0066] FIG. 58 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 54, by which a user can establish a trading condition;

[0067] FIGS. 59, 60 and 61 are copies of user help request screens for use by a user in interpreting the GUI of FIG. 58;

[0068] FIG. 62 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 54, by which a user can establish a pricing tier;

[0069] FIG. 63 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 62;

[0070] FIG. 64 is a copy of a graphical user interface for a computer screen, accessible through graphical user interface FIG. 54, by which a user can create a customized trade ticker;

[0071] FIG. 65 is a copy of a computer screen illustrating an exemplary trade ticker established using the graphical user interface of FIG. 64;

[0072] FIG. 66 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 64 to create the ticker of FIG. 65;

[0073] FIG. 67 is a copy of a graphical user interface for a computer screen, accessible through graphical user interface FIG. 54, by which a user can create a customized position/profit and loss report;

[0074] FIGS. 68 and 69 are copies of computer screens illustrating exemplary position/profit and loss reports established using the graphical user interface of FIG. 67;

[0075] FIG. 70 is a copy of a user help request screen for use by a user in interpreting the GUI of FIG. 67;

[0076] FIG. 71 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 54, by which a marketmaker can create a manual offer;

[0077] FIG. 72 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 71, by which a user can edit manual offer default criteria;

[0078] FIG. 73 is a copy of a user help request screen for use by a user in interpreting the GUIs of FIGS. 71 and 72;

[0079] FIG. 74 is a copy of a graphical user interface for a computer screen, accessible through the graphical user interface of FIG. 54, by which a user can view symbols used in creating rules and by which a user can create new symbols used in creating rules; and

[0080] FIGS. 75 and 76 are copies of user help request screens for use by a user in interpreting the GUI of FIG. 74.

DETAILED DESCRIPTION OF THE INVENTION

[0081] The present invention will be described with reference to the drawing figures where like numerals represent like elements throughout.

[0082] The Himmelstein Option is a new type of financial interest being created by the present invention. Utilizing Himmelstein Option(s) allows the present invention to create a new type of market ("virtual market"), whereby barterers may own and/or barter Himmelstein Options for Himmelstein Options, indefinitely, without having to possibly incur ordinary or capital gains taxes. Furthermore, as long as the individual who owns a Himmelstein Option or is in the possession of a Himmelstein Option does not go to settlement and "take title", the actual owner of the security defers a taxable event.

[0083] The system creates web barter dollars to further its ability to facilitate a virtual market. Web barter dollars are the system's currency with a unit (commodity dollar) which is preferably set to equal the U.S. dollar or some other standard such as foreign currency, gold etc. The system, for example, uses web barter dollars to track an "I owe you" ("IOU") to individuals giving up a security but not simultaneously receiving a security back. Preferably, the system uses web barter dollars to supplement or balance a barter in lieu of other currencies such as the U.S. dollar. Using web barter dollars or cash simplifies the matching of barter orders where items of unequal value are traded.

[0084] When converting IOUs or web barter dollars to a different security, the system may charge a different fee based on the age of the IOUs. For instance, if the IOU is to be held longer, the system may charge a lower percentage or lower fee to convert to U.S. dollars. Further, the system may charge a different fee or a different percentage based on the relationship with a particular individual requesting the conversion. The system and barterers may barter web barter dollars for cash at different values. For example, the system may charge a fee to convert from web barter dollars to cash, but as an incentive provide extra web barter dollars for cash. Should there ever be a need to have the system redefine or modify its definition for IOUs or web barter dollars, the system reserves the right (in the Agreement(s)) and can do so. For example, the system may change IOU's or web barter dollars to system funds, which are portable and permit a barterer to transfer shares of system funds to specific institutions without having to redeem shares and possibly incur a taxable event. Accordingly, those skilled in the art should recognize that the system can be configured to perform any, and all stock market, banking and financial institution functions.

[0085] Referring to FIG. 1, one embodiment of a barter system 100 is illustrated which utilizes a computer-based website that may effectuate the trading of barter items. Barter items are defined including, but not limited to, stock, cash (foreign or domestic currencies), web barter dollars, Himmelstein Options, CD's, bonds, notes, Option Put, Option Call, Commodities/Futures, Annuities, Muni Bond(s), Government Bonds, Funds, Strips (Zero Coupon Treasuries), Ginnie Mae(s), Fannie Mae(s), Freddie Mac(s), UIT (Unit Investment Trust), T-bills and any future created or defined security, commodity or commodity money. Bartering different categories of items is supported by the system 100. For example, stocks can be bartered for bonds. The system 100 provides for its own "web-barter dollars" which may be accumulated or traded by barterers using the system 100 and are particularly useful in facilitating barterers where items of unequal value are traded.

[0086] The system 100 may be a web-based application or a non-web-based application. The system may operate over a private network or a public network, such as the Internet, to facilitate a connection with a barterer's computer.

[0087] The system 100 preferably includes a barter website 106 which is accessed via an investing company website 102, or directly via the Internet using a computer such as a personal computer 114 or a wireless hand-held computer with Internet connectivity 110. Optionally, the system 100 may be incorporated as part of an existing investing company's website.

[0088] In the case of access via an investing company website 102, the barterer uses a computer such as a personal computer 108, a portable computer 116 or a wireless hand-held computer with Internet capability 112 to select a "Barter" icon 103 that incorporates a link 104 to the barter website 106. Once the icon is selected, the trader's investing company account information is transferred via a link 104 to the barter website 106. In this manner, the barter website 106 is produced with all of the relevant particulars of each item owned by the individual trader. For example, in the case of bonds, the website 106 preferably includes the entity that issued bonds, amount of bonds, market value, interest date and due date data. In the case of stocks, the barter website 106 preferably includes data indicating company, number of shares, market value and whether dividends are reinvested. Using the link 104, the barter website 106 is transparent to a barterer accessing it via the investing company website 102.

[0089] The system 100 can be further interfaced with traditional brokers so traditional brokers and clients without the resources to go directly "online" can barter in the same manner.

[0090] While the barter system 100 supports bartering different categories of items such as stocks, Himmelstein Options for stocks, notes, Himmelstein Options for notes, bonds, and Himmelstein Options for bonds, an online investing company hosting the "Barter" icon 103 can limit barterers to certain categories of items. For example, an investment company website that provides online stock trading may choose to limit the barter website 106 to only stock and/or Himmelstein Options for stock and/or Himmelstein Option barterers. This allows someone (a barterer) to acquire a Himmelstein Option which is, in this case, the right to own stock at a future date which allows the other barterer the ability to delay or defer the taxable event. This is accomplished by setting an appropriate filter so that only stock and/or Himmelstein Option is identified in the barter orders. Preferably, such a filter also allows use of web-barter dollars and/or cash which enables a wider range of barter orders to be matched and barter transactions to be completed.

[0091] Regardless of the items bartered, the barter website 106 comprises three main components: a barter ordering module 105, a posted barter order database module 117 and a barter matching engine 118. Optionally, the system 100 may include a separate database (not shown) of each individual's portfolio for all securities. In general, the barter ordering module 105 permits a trader, herein referred to as the barterer, to create a barter order that includes the item to be traded, the item desired and additional parameters related to the barter order.

[0092] The table set forth in **FIG. 9A** reflects typical parameters associated with various classes of items or securities to be identified in a barter order. In each barter order, the appropriate parameters are identified for both the item to be traded and the item to be acquired so that the barter order comprises two sets of item parameters. The two sets of parameters may be quite different where the two items, which are the subject of the barter order, are of a different class or type.

[0093] Each portfolio item, regardless of type or classes, may optionally be transformed into a Himmelstein Option agreement by defining a future date or range of dates for settlement using the last column in the table **FIG. 9A**. The Himmelstein Option is posted for immediate barter, but is subject to the specific settlement date or range identified.

[0094] A Himmelstein Option permits a security to go “under agreement” with a specific future closing date, (similar to a purchase of real estate). Presently, the IRS does not treat this as a taxable event at the time of the agreement. An individual who owns a Himmelstein Option may barter it again (with the same or different terms as the original agreement) without having settlement and obtaining ownership of the underlying security. Obviously, “different terms” are limited to a subset of terms of the original Himmelstein Option agreement that was issued.

[0095] The “standard” Himmelstein Option requires that the individual acquiring the Himmelstein Option must put up the full amount of the desired security at that time, (i.e. and nothing at settlement). If the desired security is also a Himmelstein Option, providing the rights to acquire or transferring the rights meets this requirement. It should be noted that each Himmelstein option may have different future dates for settlement. The IRS may attempt to claim that this constitutes a derivative. However, if an individual is bartering away a security and barterers for a security, on future dates utilizing Himmelstein Options, they are receiving a derivative and giving away a derivative. Consequently, in most cases, these derivatives in essence, “cancel out.” The system **100** may further require that the barterers agree on the value for the Himmelstein Option should the IRS consider it a derivative. Preferably, the system sets the “barter value” as the default agreed upon value.

[0096] The person who issues a Himmelstein Option or barterers an acquired Himmelstein Option chooses the future date or range of dates for settlement and value which must be accepted by the acquirer. If there was a future range of dates given for settlement, it is the choice of the person acquiring the Himmelstein Option to go to settlement within the specified range. The “standard” Himmelstein Option automatically goes to settlement on the final day should the person acquiring the Himmelstein Option not choose a date. The system **100** may charge an additional fee for the actual settlement.

[0097] When an individual creates a barter order for any security, the system **100** produces an Agreement of Barter, Exchange or Sale (i.e. terms and conditions). Barterers, in essence, fill in the “blanks” of the Agreement of Barter, Exchange or Sale. The system **100** may also require electronic signatures to accompany the Agreement or may create a parallel Agreement for each barterer for simplicity and anonymity purposes. The Agreement is also with the system **100**, providing various conditions or rights that the system **100**, intermediary or designated agent(s) has with the barterer.

[0098] At settlement of transactions comprising Himmelstein Options, title to the security or financial interest, which is the subject of the Himmelstein Option, is transferred. For stock, for example, settlement may require the actual transference of Stock Certificates. Preferably the traded stocks are not in paper certificate form so that a book entry of the stock transfer may be made to transfer title.

[0099] Once bartered, a Himmelstein Option cannot be canceled by its creator. Himmelstein Options may continually be bartered without being required to have settlement. Examples of a Himmelstein Option with appropriate parameters for each of nine different classes/types of items are set forth in the table of **FIG. 9B**. Similar to **FIG. 9A**, in **FIG. 9B** each row shows one of the items of a barter order, i.e. an item to be bartered or an item to be acquired. A Himmelstein Option may be identified as a “to be bartered item” and actual stock may be identified as a “to be acquired item” in a given complete barter order. A Himmelstein Option may be acquired via the barter system as soon as it is posted, but the actual ownership of the financial interest, which is the subject of the option, is not transferred to the acquiring party until the acquiring party exercises the Himmelstein Option during the settlement period.

[0100] When the barterer creates a barter order, the system **100** creates an order number referencing the barter order. The system **100** may randomly create or code barter order numbers so only the system **100** is aware of the age of a barter order and the identity of the barterer. The posted barter order database module **116** accumulates posted barter orders and includes the software to add, delete and maintain the data in the database. The barter matching engine **118** selectively matches a barterer’s barter order with posted barter orders in the database **116**. Posted barter orders “matching” a barterer’s order are displayed such that the barterer can select a candidate or candidates from the displayed listing of matching posted orders. The matching process functionally operates as a filter to display posted orders matching a selected criteria. Preferably, the filter is set to match the barterer’s selected item to be acquired with posted orders having the same item to be bartered. The quantity of the selected item may also be used for filtering to require a direct quantity match or a match within a quantity range. The barterer’s selected item to be bartered is also a preferred criteria for the matching filter, so that postings are displayed of barter orders which seek to acquire the item selected to be bartered by the barterer. A preferred filter includes both the barterer’s selected item to be bartered and selected item to be acquired. Optionally, the filter may allow both specific items of a class as well as Himmelstein Options for the specific items. Thus, where a barterer’s desired item is IBM stock, posted barter orders seeking to barter away IBM stock or Himmelstein Options for IBM stock are displayed as matches.

[0101] The barter matching engine **118** is configurable to either match one “best” posted order or multiple posted orders with a barterer’s order. The barter engine **118** can also be configured to use the barter website (or an entity chosen by the website) as an intermediary as explained in greater detail below.

[0102] **FIG. 2** illustrates a typical stock and/or Himmelstein Option for stock and/or Himmelstein Option barter transaction involving sample posted barter orders **204-224**

stored in a database 216 of module 116 and a sample barterer's barter order 226. In this example, the barter order includes the stock to be bartered indicated by stock symbol 228, the quantity 230 of the stock to be bartered, the value 232 at which the barterer is willing to barter, the desired stock 234 indicated by stock symbol, the value 236 the barterer is willing to barter for the desired stock, and an "*" indicating the ownership of the Himmelstein Option for the stock instead of ownership of the stock itself. Preferably, the settlement date(s) are displayed for all Himmelstein Options. The stock values of a barter order need not be a fixed value. For example, values identified for several of the posted barter orders 204, 208, 212, 218-224 are based on the current market price of at least one of the respective stocks. Barter order 226 indicates that the barterer has 45 shares 230 of Dupont stock (stock symbol DD) 228 which the barterer is willing to trade at a value of \$20 per share 232 for Aetna stock (stock symbol AET) 234 at a value of \$90 per share 236. If the matching criteria is set to match only the barterer's acquire item selection (including Himmelstein Options for the item), orders 204, 206, 208 are displayed. If the matching criteria is set to match only the barterer's barter item selection (including Himmelstein Options for the item), orders 206, 208, 216 are displayed. If the matching criteria is set to match either the barterer's barter or acquire item selection (including Himmelstein Options for the item), orders 204, 206, 208, 216 are displayed. If the matching criteria is set to match both the barterer's barter and acquire item selections (including Himmelstein Options for the item), orders 206 and 208 are displayed. An order combining orders 204 and 216 may also be displayed in that situation.

[0103] Other criteria such as market value and the other parameters identified in FIGS. 9A and 9B for each barter item may be displayed and used for matching. For example, where barter value is required to be matched, if the market value of Dupont stock is \$20 per share, the barter engine 118 matches the order 226 with only one of the posted barter orders from database 216 namely, with posted barter order 208 from the database 216 since this posted order 208 barter Aetna stock for Dupont stock at the same value prices.

[0104] Where an additional matching parameter is set that all of an item of a barter order must be bartered, the Himmelstein Option for all 100 Aetna shares of posted barter order 208 must be bartered. In the example, the barter matching engine 118 would then fail to match barter order 226 with any posted order unless the barter website 106 acts as an intermediary as described below. Conversely, in an embodiment where the barter orders include a minimum share barter parameter, the barter engine 118 matches barterer order 226 if the minimum share parameter of the posted barter order 208 is less than 11 shares.

[0105] FIG. 3 illustrates a multi-order barter selection 300 having first 302, second 308, third 314 and fourth 320 barter orders according to the present invention. Multi-order barter selection may be used either when no single barter order matches are found irrespective of whether single barter orders matches are found in order to find all potential available barterers among the posted barter orders. In this example, the barter engine 118 cannot fulfill the first barter order 302 with a single one of the other barter orders 308, 314 or 320. The first barter order 302 barter Microsoft stock (stock symbol MSFT) 304 for RedHat stock (stock symbol

RHAT) 306. None of the other posted database orders barter RHAT for MSFT, but barter order 302 can be fulfilled if intermediate barterers are matched. The barter matching engine 118 matches intermediate barterers using several methods. In one embodiment, barter matching engine 118 searches for a posted barter order having a desired stock/Himmelstein Option that matches the barterer's stock/Himmelstein Option to be traded. Since posted barter order 320 lists MSFT as the desired stock 324 and the first barter order 302 stock to be bartered is MSFT 304, the barter matching engine 118 search for the first half of the first barter 302 has been satisfied. However, the barter matching engine must find a match for the desired stock 306 for the first barter order 302 and must also find a match for the first half 322 of the third barter order, 320. Accordingly, the barter matching engine must find a transaction that satisfies the desired stock Oracle (stock symbol ORCL) 322 of the third barter order 320.

[0106] The barter matching engine 118 searches for an order that trades ORCL for RHAT in order to make a two posted order barter transaction. However, in the example, there is no posted order that trades these two stocks, so the barter matching engine 118 locates barter order 308 that trades Puma Technologies (stock symbol PUMA) 310 for ORCL 312. The barter matching engine 118 then searches for another posted barter order that trades RHAT for PUMA to find a transaction candidate. Barter order 314 meets this criteria in that RHAT 316 is traded for PUMA 318. Accordingly, barterer order 302 can be satisfied through posted barter orders 320, 308 and 314. In a preferred embodiment so as to make the multi-order transactions transparent to the barterer, barter matching engine 118 displays multi-order barterers as a single "phantom" posted barter order. The matching engine 118 creates a transaction and displays this phantom barter order in the list of matching barter candidates. The barterer simply selects the phantom barter order to finalize the multi-order barter transaction. In these examples, it is assumed that the values and other parameters set by the barterers permit all barter orders to occur.

[0107] In another method for locating multi-order barterers, barter matching engine 118 begins by searching for the barterer's desired stock 306 first. Barter engine locates barter order 314 that trades RHAT 316 for PUMA 318. Continuing in this manner, the engine locates the same posted barter orders as above, but in the reverse order. In general, the engine 118 attempts to link multiple barter orders. One of ordinary skill in the art of software programming appreciates that a recursive algorithm is well suited for generation of such a linked list.

[0108] The operation of barter ordering module 105 allows the barterer to enter the barter order. In one embodiment of the present invention, the barterer selects minimum barter order parameters such as the specific stock, quantity and value price of the stock to be bartered in addition to the desired stock and value price for the stock desired. Once these minimum parameters are selected, other parameters are set to default settings determined by barter ordering module 105. In another embodiment, order parameters have interdependencies. For example, a barterer selects a quantity of shares of a stock to be traded as 100 shares and sets the per share value price to \$15. The total value of the stock, \$1,500, is computed by the barter ordering module as the product of the quantity of shares, 100, and the per share

value price, \$15. In the case where the barterer subsequently changes the total value of the stock from \$1,500 to \$2,000, the per share value price of the stock changes automatically to \$20 since the value per share must be \$20 to achieve the \$2,000 total value with the 100 shares.

[0109] Barter orders may be created for stock and Himmelstein Option for stock barterers as illustrated in flowcharts FIGS. 4A-4E and the screen displays of FIGS. 5A-5F where the barterer is prompted through each step of the barter order creation process. For bartering other securities or financial interests, including Himmelstein Options, the bartering steps and screen displays are modified to preferably accommodate all of the parameters for the classes of items identified in FIGS. 9A-9B.

[0110] The system 100 in its most generalized configuration permits barterers of different securities, financial interests (including Himmelstein Options), or classes of items, i.e. Himmelstein Option for stocks for bonds, foreign currency for Himmelstein Option for T-bills, commodities for stocks, options for T-bills etc. The most generalized configuration of the system 100 permits a barter to select any item in the barterer's portfolio of securities or financial interest as the subject of a Himmelstein Option which is immediately available for bartering where the title to the security or financial interest is not actually transferred until the Himmelstein Option is exercised in the range of settlement dates specified by the barterer creating the Himmelstein Option. Where a barterer's portfolio includes such Himmelstein Options, that barterer may create a Himmelstein Option of the Himmelstein Option in which case the range of settlement dates would be within the settlement date range of the original Himmelstein Option.

[0111] In the example of FIGS. 4 and 5, barter website 106 is accessed via an online stock trading company that limits bartering to stocks, Himmelstein Options for stock, cash, web barter dollars and combinations thereof. The flowchart of FIG. 4A begins after the trader selects "Barter" icon 103. Accordingly, barter ordering module 105 has received from the online stock trading website a barterer's list of currently owned stocks, Himmelstein Options for stock, web barter dollars and cash in the barterer's portfolio as well as the quantity and other specifics of these securities via link 104. At step 402 FIG. 4A, the website displays all of the barterer's stock, Himmelstein Options for stock, web barter dollars and cash available for barter. In step 404, The barterer selects from the displayed items in step 402. In the embodiment of FIG. 5A, a symbol 502 representing a selection of the barterers portfolio of stocks, Himmelstein Options for stock, web barter dollars and cash is displayed. The barterer selects, the downward triangle 501, to display all available stocks, Himmelstein Options for stock, web barter dollars and cash as shown in 503, an * indicating the ownership of a Himmelstein Option for the stock and date or range of dates for settlement instead of ownership of the stock itself. Preferably, blanks are provided to indicate an indefinite opening or closing for the Himmelstein Option settlement period. For example, the DuPont Option, DD* is depicted having an indefinite closing date.

[0112] The system preferably further indicates if the barterer's security is currently included in a posted barter order requiring the barterer to cancel said posted barter order prior to selecting the security for a new barter order. Optionally,

an alphabetical list of companies and/or stock symbols is displayed for alphabetical searching and/or the portfolio quantity 504 of the stock is also displayed. The barterer may enter the selected item 502 by typing it in. Preferably when the barterer begins typing the name or symbol of the company, the barter ordering module locates the first listed item that matches the entered characters. Alternatively, the portfolio is displayed for selection via an array of pull down menus 507, each displaying one class of the items of the barterer's portfolio.

[0113] Once the barterer locates and selects the item to be traded, the total quantity of the selected item in the barterer's portfolio (as may be provided by the online stock trading website) is automatically displayed in step 406 of FIG. 4A as the quantity to be bartered. At step 408, the barterer can modify the quantity to be bartered 410. As shown in FIG. 5A, the quantity 504 can be modified via selection of the directional arrows 505 or the barterer can enter a new quantity value. In either case, in this embodiment the barter order module 105 does not allow a quantity value that exceeds the quantity owned by the barterer. Alternatively, the system 100 may be configured to permit the barterer to select a range of quantities to be bartered. For example, the barterer may specify a range such as 50-100 shares for barter.

[0114] Preferably, the barter ordering module 105 has access to trading prices at step 412 of FIG. 4A, so that the trading price of the selected stock is displayed along with the time and date of the trading price as illustrated in display section 506 of FIG. 5A. A fixed per share value of the stock or Himmelstein Option 508 of FIG. 5B is initially set to the trading price. If barterers are trading away cash or web barter dollars, the system 100 in that instance may rearrange the screens and prompt the security being bartered for prior to prompting the cash or web barter dollars being traded away. As one skilled in the art will realize, the fields which are not applicable to cash or web barter dollars are modified to properly reflect what is being bartered. At step 414 of FIG. 4A, the barterer can elect to trade at the displayed trading price or select a new barter value 416. As FIG. 5B illustrates, the barterer can change the default fixed per share value 508 or select the value of the stock to be bartered based on the fluctuating stock trading price by selecting block 510.

[0115] By selecting the fluctuating value price, the value fluctuates until a barter transaction is finalized by a subsequent barterer who selects the barter order. For example, if IBM stock was trading at \$115 per share and the barterer selects "barter at current stock trading price", the barter price would be \$115 per share if the transaction occurred instantaneously. However, if the barter transaction occurred two weeks later and the stock-trading price dropped to \$110, then \$110 would be the barter value price. Likewise, if the stock-trading price went up, then the barter price would be that higher price.

[0116] Optionally, the barter value can be based upon the current stock trading price plus or minus a certain value or percentage in step 416 in FIG. 4A and at step 511 in FIG. 5B or the barter value can range around a fluctuating trading price specified as either a value amount or a percentage of the fluctuating trading price. To do this the barterer selects a range around the fluctuating stock value as illustrated in FIG. 5B at 512, 518. The range can be a value amount 514,

517 or a percentage of the fluctuating trading price **516**, **519**. By selecting boxes **512** or **518**, the barterer selects whether the range is added to or subtracted from the fluctuating value. For example, if the range was set to plus 1 percent at step **416** (by selecting box **512** and entering 1% in box **516**) and the market price for IBM stock to be bartered, at the time of the barter transaction was \$115 per share, a posted barter order with a value price between \$115 and \$116.15 would match the barterer's order. A barterer may issue a Himmelstein Option to barter away IBM stock as low as minus 9 percent of the \$115 IBM market price by checking box **518** and entering 9% at box **519** so that a posted barter order with a value price between \$104.65 and \$115 would match the barterer's order.

[0117] Once the value of the item to be bartered is selected in step **416** of **FIG. 4A**, the barter ordering module displays at step **418** of **FIG. 4B** the total barter amount and the percentage or dollar amount of the value price in relation to the available market price per share in **FIG. 5B**, at **520**. Should a range of value price be selected, the display **520** is modified to reflect such. In the example of Figure **5B**, the barterer can change the barter value **520** by clicking on a "change" icon **522** and going through the appropriate steps or accept the value **520** by clicking on a "continue" icon **523**. This is also shown at step **420** of **FIG. 4B**.

[0118] At step **422** of **FIG. 4B**, barter order fee amounts are displayed. Fee amounts, as illustrated in sample screen display lines **524** and **526** of **FIG. 5C**, are determined based on whether the barter order is to be posted to the barter order database **524** or the barter should occur with the barter website directly **526**.

[0119] At step **424** of **FIG. 4B**, the barterer selects the time in which the barter order is valid. As illustrated in the embodiment of **FIG. 5C**, timing options **528** are displayed once the barter selects the down arrow. The five options are:

- [0120] 1) day only;
- [0121] 2) good until canceled;
- [0122] 3) fill or kill;
- [0123] 4) immediate or cancel; or
- [0124] 5) only view the current posts.

[0125] The "day only" options means that the barter order can be posted to the posted barter database only until the end of the day. Thereafter, the barter order is expunged from the posted barter order database. The "good until canceled" option means that the barter order remains posted to the posted barter order database until it is canceled by the barterer. If the "fill or kill" timing option is selected, the entire quantity must be filled or the barter order is canceled. With "fill or kill" timing, the barter order is not be added to the posted barter order database, but the database is searched for a match. Similarly, a barter order is not added to the posted barter order database if the "immediate or cancel" timing is selected. In this case, a posted barter order for only part of the barterer's quantity matches the barterer's order. The last timing option, "only view the current posts", never adds the barter order to the posted barter order database. Instead, the barter matching engine **118** displays the current matches found in the posted barter order database.

[0126] At step **426** of **FIG. 4B**, the barterer may select special conditional parameters. The available special con-

ditions are "minimum quantity," "do not reduce," "all or none," and "deferred settlement." The display portion **530** of **FIG. 5C** illustrates one means of selecting special conditions. In this embodiment, the barterer may select one of the conditions by selecting a corresponding box. If the minimum quantity condition is selected, the barterer then either adjusts the display quantity via the arrows or enters a minimum quantity value. The default minimum quantity may be set to equal the barter quantity **504**. Selecting "do not reduce" means the per share value will not be reduced even if the transaction date is the stock's dividend date. If the barterer selects the "all or none" option, all barter matches must barter the entire quantity of the stock to be traded away.

[0127] Selecting the "deferred settlement" condition creates a Himmelstein Option of the item being bartered. The barterer is then required to identify open and close settlement dates, which may be the same. If the barterer is already bartering a Himmelstein Option, the barter ordering module **105** automatically selects "deferred settlement" and displays the date used by the original creator/issuer. The barterer may modify the dates as long as the modified dates are within the range of dates used by creator/issuer. Optionally, at step **531**, **FIG. 5C** the barterer may enter a subsequent amount of the security or a different security to be provided at settlement. As hereinbefore described, the system will prompt barterer to include minimum criteria to clearly identify the security and the value.

[0128] At step **428** of **FIG. 4B**, if the desired security is stock, the barterer selects between three choices for the desired stock with respect to a dividend reinvestment option. Accordingly, the barterer chooses between: 1) the stock must have a dividend reinvestment program; 2) the stock must not have a dividend reinvestment program; or 3) accept new stock with or without a dividend reinvestment program. In the embodiment illustrated in **FIG. 5D**, the barterer selects the desired option by selecting the corresponding box in section **532**.

[0129] At step **429** of **FIG. 4B**, the barterer chooses the type of barter they wish to transact, (i.e. a direct barter only or permit the website to act as the barterer or use an intermediary if a direct barter is not available). The barterer can request a direct barter with an order from the posted barter database at a first fee rate, or in the alternative for a second fee rate, the barterer can request the website to be the barterer. The first and second fee rates may be the same or change independent of each other. At times to promote automated website bartering, depending on the securities to be bartered, the second fee rate may be set at a relatively low rate, or it may be set to a premium rate for the automated service. According to the embodiment illustrated in **FIG. 5D**, the barterer selects the type of transaction in section **534**.

[0130] Following the selection of barter type, step **429**, posted barter orders may optionally be displayed **430** based on matches of posted order "to be acquired" items with the barterer's "to be bartered item." In the case of a direct barter, a trade can be displayed immediately if a match is found in the database, or the barterer can complete and post the order to the database and await a match from a subsequent barterer. In the case of a barter with the website, the transaction is displayed immediately provided the website can buy or obtain the stock, Himmelstein Option, web barter dollars or cash desired by the barterer. Here, the website uses

a predetermined formula including taking into account the relationship with the barterer to calculate the fee for this type of transaction.

[0131] The barterer selects the desired stock, Himmelstein Option, web barter dollars or cash price to acquire for the barter order at step 431 of FIG. 4B. If the barterer's desired security is a stock, Himmelstein Option, web barter dollars or cash, the barterer checks the appropriate box in display 537 as illustrated in FIG. 5D. Optionally, if the barterer's desired security is stock, the system 100 displays all stock and Himmelstein Options for the desired stock in the database, allowing the barterer to accept a Himmelstein Option in lieu of actual stock. In a manner similar to that of selecting a stock to be traded from the barterer's portfolio, stock symbols 535 are displayed upon selection of a down arrow. Optionally, the barterer can select from a list of industries 536 wherein the stock symbols 535 are filtered to list only those related to the selected industry. Alternatively, a merged alphabetical list of companies and/or stocks is shown for alphabetical searching. Additionally, the system 100 can be configured to show various companies (in a predefined sort) including the symbol and predefined financial information.

[0132] If the barterer chooses a stock or Himmelstein Option, by selecting it, the system 100 displays the symbol 535 pertaining to the chosen company. Next, in step 432 of FIG. 4C the barter ordering module informs the barterer of the available stock trading price of the desired stock/Himmelstein Option, along with the current date and time. One method of displaying the price is illustrated in FIG. 5D at section 538.

[0133] The barter value of the desired item defaults to the available stock trading price at section 540 of the display of FIG. 5E for stock, or Himmelstein Option. Further, if the system 100 had a barterer trading a stock or Himmelstein Option for cash or web barter dollars, the system 100 may prompt in 540, the stock trading price of the stock or Himmelstein Option being traded away. The barterer can accept the displayed value at step 434 or select a new value at step 436 of FIG. 4C. In the display of FIG. 5E, the desired stock value for stock or Himmelstein Option can be selected similar to that of selecting the stock value to be traded. The barterer can select a fixed value using box 540 or a value plus or minus the stock trading price (similar to step 511, as shown in FIG. 5B) or a fluctuating stock value range in section 541 in a manner as described in connection with 510-519 of FIG. 5B. The stock value can range around a fluctuating trading price specified as either a value amount or a percentage of the fluctuating trading price. Thereafter, as indicated in the flowchart of FIG. 4C at step 438, the total desired barter amount and percentage or dollar amount to the stock trading price is displayed as illustrated in sample display 542 of FIG. 5F. At step 440 of FIG. 4C, the barterer can change the barter value of the desired item which steps can be implemented by clicking the "change" icon of display section 542 of FIG. 5F.

[0134] At step 442 of FIG. 4C, the present invention assists the barterer in determining whether the barter order is financially advantageous to the barterer. Several ratio formulas, termed Himmelstein Value Ratios, are provided to assist the barterer. In the embodiment of FIG. 5F at section 544, the barter ordering module selects the specific formula and the Himmelstein Value Ratio is displayed. The barterer

may then change the barter order per step 444 by selecting a change icon in section 544 of the display FIG. 5F.

[0135] In an alternative embodiment, the barterer selects the desired formula after receiving help text describing the formulas. Regardless of the method used to select a particular formula, there are three preferred formulas:

Value Ratio	1)	$(x/y)/(a/b)$
Value Ratio	2)	$(a/b)/(x/y)$
Value Ratio	3)	$(b/a)-(y/x)$

[0136] where:

[0137] a= value price for security/Himmelstein Option desired to trade away

[0138] b= current security trading price for security/Himmelstein Option desired to trade away

[0139] x= mvalue price for security/Himmelstein Option desired to obtain

[0140] y= current security trading price for security/Himmelstein Option desired to obtain

[0141] For example, using Himmelstein Value Ratio 2, a barterer owning Coke stock or Coke Himmelstein Option is willing to barter it away at a value of \$65 per share, and Coke is currently trading at \$67 on the stock market. If the barterer desires to barter for IBM stock, or IBM Himmelstein Option at value of \$110 per share and the stock is currently trading at \$115 per share on the stock market, the value ratio formula is: $((65/67)/(110/115))=1.014$, which means that if the barterer trading Coke stock/Coke Himmelstein Option for IBM stock/IBM Himmelstein Option chose to complete the transaction, they will gain 1.4 percent. In essence, in this formula anything less than 1 is a stock/Himmelstein Option barter transaction that loses value and anything greater than 1 is a transaction that gains value. This formula is important to understand the relationship between the value of the stock/Himmelstein Option that is being traded away and the stock/Himmelstein Option that is being obtained. In lieu of displaying the value ratio, the system 100 may display the actual percentage of increase or decrease after interpreting the value ratio. Variations of the above formulas may also be used. Any Himmelstein Value Ratio formula may be modified by adding or subtracting a predetermined value or variable. For example, Formula $(a/b)/(x/y)$ may be changed to have the value "-1" subtracted to it making the new Formula $(a/b)/(x/y)-1$. If Himmelstein value formula $(a/b)/(x/y)-1$ is greater than 0.00 then to what extent greater is the percentage of profit, which in the above COKE/IBM example is 1.4%. Any Himmelstein Value Ratio formula may be modified by multiplying or dividing a predetermined value or variable. For example, formula $(a/b)/(x/y)$ may be changed to have the variable "y/x" multiplied to it making the new formula $(a/b)*(y/x)$ or $(y/x)*(a/b)$. If Himmelstein value formula $(a/b*y/x)$ is greater than 1.00 then to what extent greater is the percentage of profit, which in the above COKE/IBM example is 1.4%. Any Himmelstein Value Ratio formula may be modified by having both a predetermined value or variable added or subtracted while at the same time multiplying or dividing by another predetermined value or variable. For example,

formula $(b/a)-(y/x)$ may be changed to have the value of “1” added to it and have the variable “-1” multiplied to it making the new Formula $((-b/a)+(y/x))-1$ or $((y/x)-(b/a))-1$. If Himmelstein value formula $((y/x)-(b/a))-1$ is greater than -1.00 then to what extent greater is the percentage of profit, which in the above COKE/IBM example is 1.4%.

[0142] For securities such as CD's, bonds, annuities and government bonds that provide an interest rate/current yield until a due/maturity date, the system may calculate the actual income from that present day forward to be earned, factoring in the type of interest and adding same to all applicable variables (i.e. b or y) in the above stated formulas. For the securities stated above, the barter order module may require the settlement date to be the same date as the due/maturity date. In other words, the variables in the above formulas would be defined as:

[0143] a= value price for security/Himmelstein Option desired to trade away.

[0144] b= current security trading price for security/Himmelstein Option desired to trade away, plus future interest income from that present day forward to be earned, but not paid, before the earliest settlement date of the securities being bartered.

[0145] x= value price for security/Himmelstein Option desired to obtain.

[0146] y= current security trading price for security/Himmelstein Option desired to obtain, plus future interest income from that present day forward to be earned, but not paid, before the earliest settlement date of the securities being bartered.

[0147] For barter items or securities such as CD's that do not have a current trading market, the system 100 can also calculate the accrued, not paid, interest from issuance up to the present day. In other words, the variables b and y in the above formulas in such instances are modified as follows:

[0148] b= system calculated security trading price for security/Himmelstein Option desired to trade away includes the following:

[0149] original purchase price or face value of barter item or security plus,

[0150] accrued unpaid interest income from issuance up to the present day plus,

[0151] future interest income from that present day forward to be earned, but not paid, before the earliest settlement date of the securities being bartered.

[0152] y= system calculated security trading price for security/Himmelstein Option desired to obtain includes the following:

[0153] original purchase price or face value of barter item or security plus,

[0154] accrued unpaid interest income, from issuance up to the present day plus,

[0155] future interest income from that present day forward to be earned, but not paid, before the earliest settlement date of the securities being bartered.

[0156] Optionally, for securities such as CD's that do not have a current trading value, the system 100 may have the

applicable variables (i.e. b or y) include the original purchase price or face value plus accrued interest income, excluding future interest income so that the system provides a “current day” value. The barterer may select the desired formula, including the definitions of b and/or y for each security in a barter transaction after receiving help text describing how each variable may optionally be defined in the formulas.

[0157] If the securities being bartered have different due/maturity dates, the system 100 may use the present day to the earliest settlement date as the period of time for calculating the income to be earned, calculating each securities' actual interest rate/current yield, factoring the type of interest, and adding same to the respective variables (i.e. b or y). To ascertain a more accurate value ratio, when one security has interest income, such as CD's, and another security does not, such as stock, the system may include or exclude interest income from the value ratio formulas depending on the formula chosen by barterer/system. The system 100 may disclose and or incorporate the actual formula(s) used to ascertain the value ratio into a finalized transaction agreement.

[0158] Where no conventional market value is available, the system 100 may be configured to examine posted barter orders or develop methods or new formulas to determine a current trading price.

[0159] Referring to FIG. 4D at step 446, the barterer can review the barter order prior to submission of the order to the barter matching engine. As illustrated in the embodiment of FIG. 5F the barter order module lists at section 546 the terms and conditions before the barterer submits the order by clicking an appropriate icon 548. Alternatively, the barterer may decide to terminate the barter order creation by clicking a “QUIT” icon 549.

[0160] Once the order is submitted by the barterer at step 448 of FIG. 4D, the matching engine searches the website database for a barter order or in an embodiment where the engine matches multi-order barters, multiple barter orders to satisfy the submitted order. If no match is found at step 450, the barter matching engine determines whether the order should be posted to the database 452 based on the timing selected at step 424 of FIG. 4B. If the order should be posted, the barter order database module 116 posts the order to the database.

[0161] After the barterer clicks on the “continue/agree” icon 548, (and depending on the timing chosen), the system 100 in accordance with FIG. 4D posts the barter as an available transaction 452, 456 and/or finds and displays “matching” posted barter orders 450, 454 via the screen display illustrated in FIG. 6. The “matching” in the preferred embodiment includes matching the barterer's desired item and barter items with the barter and desired items of single or multiple combinations of posted barter orders where any matched Himmelstein options have overlapping settlement dates.

[0162] Where posted barter orders are displayed, preferably the barter orders are listed by the lowest share price of the stock or Himmelstein option that the barterer wishes to acquire such as in display section 610 of FIG. 6. If any one of the available barter orders requires the price to fluctuate with the stock market, the display is preferably continually

updated so that the prices reflect market value as close to real time as possible. The screen also displays the order number, symbol, share price, ratio to stock trading price, value ratio, number of shares, barter amount, barter price fluctuate with stock trading price, special conditions, timing, and dividend reinvestment criteria.

[0163] If the individual decides that they are willing to barter away some or all of their selected portfolio stock/Himmelstein option for one or more barter orders listed, they select to do so 458, of FIG. 4D (or as long as they have more barter amount available) by simply clicking on each order, (i.e. choosing first preference then second preference, and so on). Each time an order is chosen, the system 100 permits/ requires the individual to revise their original quantity, and value price in the stock/Himmelstein option for which they desire to trade away in the barter, thereby requiring the individual to accept the prices and the amount of stock/Himmelstein option received in return from the barter order that they had selected. When a posted order is chosen, the system 100 enters the corresponding information in a table on the screen to notify the individual of the transaction number, number of "shares trading away" with item price, number of "shares receiving" with item price and barter amount with totals at bottom of the table as reflected in screen table 620 of FIG. 6. For cash and web barter dollars, the fields which are not applicable remain blank. Optimally, the system may display in 620, the after date and before date for Himmelstein Options being acquired or bartered.

[0164] Each time a transaction is chosen, the system 100 reduces the value for "amount of barter left" in a display box 622. If an individual has less than an available barter transaction, (with no special conditions nor timing limitations) when the individual selects the order number, the system 100 shows the number of shares for which the barter is permitted. Upon selecting each order, the system 100 shows the residual amount in a display box 624 and presents three choices 460: 1) hold stock/Himmelstein option in escrow; 2) donate the stock/Himmelstein option; and 3) purchase other stock/Himmelstein option. If any of these choices are chosen, the system 100 displays additional screens to complete the above tasks. Optionally, the system 100 may allow the barterer to convert the residual amount into web dollars, which are added to the barterer's portfolio after the transaction is completed.

[0165] Additionally, when a barter order is chosen, the system 100 "locks" the barter order, including the price, to the individual for a predetermined duration. A display of the time remaining to complete the transaction appears in a "time remaining" display box 626. Should the time expire, the system 100 provides two options: 1) finalize transaction; 2) or lose transaction in "X" seconds, with seconds decrementing on screen. The system 100 may, if desired, inform the individual that someone else is looking at the same barter order and may inform other users that there are pending barter orders which may come available.

[0166] Upon the individual reviewing available barter orders and deciding what they want to do, (i.e. accept one or more orders or none), they proceed by choosing one of the following four icons 631-634: 1) clear; 2) change barter order; 3) finalize transaction; and 4) finalize transaction but display more barter options. Each option leads to the display of additional screens to complete the selected task as indicated in FIG. 4E.

[0167] In addition to the main bartering screens, the system 100 may include pop-up screens to show "history" of past barter transactions and to show performance on how a security is performing, and the current value ratio formula provided from past transaction(s). If an individual bartered away Himmelstein Option(s) that have not gone to settlement, the system provides a screen selection showing the security or securities, the range of settlement dates allowed and preferably includes all of the criteria or information in the actual barter transaction.

[0168] The system 100 exhibits other special conditions such as if the value of a security falls, the system 100 may require barterers to barter some or all of a security back; an election to require that the value ratio must stay within a specified range for a specified time or trigger an action by the system 100 such as a penalty, or forcing the individuals switch some or all security back, etc.; and the entry of multiple securities or symbols, and corresponding value prices, and permit the system 100 to automatically take the best value ratio as long as value ratio is over a specific number (i.e. such as 1.00) set by the barterer and the system 100 automatically completes the transaction if posted barter orders exist meeting that criteria.

[0169] The system 100 may be programmed to automatically purchase security within a predetermined value range when a barter order is posted or market values change, complete a barter transaction for the barter order and sell the acquired security while charging an appropriate fee. The system 100 may act as a negotiator between barterers, sending each an e-mail or otherwise notifying them when the search engine discovers potential matches among barter orders. The system 100 may permit access by individual barterers to the identity of barterers who have posted "matching" barter orders to allow them to negotiate directly between themselves through e-mail or otherwise. The system 100 may require e-mail sent through it to purge "identity" (i.e. ensure anonymity). The system 100 may create an e-mail subsystem allowing individuals interesting in bartering to enter limited pertinent information into the blanks of the agreement being presented to one another only identifying the individuals by the order number that was created by the system 100 when it originally posted the barter order. This is referred to as an "offer to purchase." The system 100 may lock the individual's security being offered for a specified time allowing the individual receiving the offer time to accept, modify, or reject the offer. In other words, the individual making the offer cannot back out unless the person receiving it fails to respond within the time frame, modifies it or rejects it.

[0170] The system 100 can also be configured for telephone access so that all functions that one may do online may be done over the telephone. Additionally, pre-approved individuals can be permitted to barter for securities (which the website holds in escrow) prior to bartering their own securities.

[0171] In the generalized version of the barter system, various types of barterers may be implemented as schematically illustrated in FIGS. 7A through 7E.

[0172] Referring to FIG. 7A, a two party exchange or direct barter is illustrated. For example, Individual "A" barterers directly with Individual "B" effecting an exchange of securities, X and Y respectively. Example, Individual "A"

issues or posts a Himmelstein Option to barter **100** shares of AOL worth \$1,000 (Stock "X") for 200 shares of IBM worth \$1,000 (Stock "Y") after Jan. 1, 2000 and before Feb. 1, 2005. Individual "B" accepts the Himmelstein Option effectuating an agreement to immediately barter 200 shares of IBM for the rights to acquire 100 shares of AOL in the future. A receives the 200 shares of IBM from B and irrevocably commits A's 100 shares of AOL to be transferred to B or B's designee at any time settlement is demanded between Jan. 1, 2000 and Feb. 1, 2005.

[0173] In the event the barter transaction is not an exact match in value, the system **100** may balance the barter transaction by allowing one barterer or the other to pay cash, provide web barter dollars, offer a different security, such as a Himmelstein Option on a different security, or allow the barterer to acquire more of the particular security that they are bartering.

[0174] Referring to **FIG. 7B**, a two party exchange with an intermediary is illustrated. For example, Individual "A" barter with Individual "B" to trade away security X and acquire security Y through an intermediary. If a match is located but the values are not equal, the intermediary may retain the excess security and supplement the barterer bartering away the greater value security with cash, provide web barter dollars, a different security, such as a Himmelstein Option on a different security, or acquire more of the desired security (by first acquiring such).

[0175] The intermediary either obtains additional cash, a security, such as a Himmelstein Option, or more of the desired security, such as a Himmelstein Option from the other barterer and/or from a third party (upon which the intermediary reciprocates a security, such as a Himmelstein Option, cash, or web barter dollars). For example, using the same values above, Individual "A" issues or posts a Himmelstein Option to barter 100 shares of AOL for 200 shares of IBM. Individual "B" has 100 shares of IBM that he would like to barter for the rights to acquire 50 shares of AOL in the future. The intermediary keeps the Himmelstein Option for 50 shares of AOL and acquires the additional 100 shares of IBM and completes the exchange with individual A.

[0176] **FIG. 7C** illustrates a three party transaction with an intermediary. Individual "C" barter away security Y to receive security X. The intermediary, which may be the barter website, identifies Individuals "A" and "B" to complete the transaction. Individual A sells or barter security X for cash and Individual B buys or barter security Y for cash. The cash amounts may or may not be equal, but Individuals A, B and C may incur a service charge from the intermediary/website for the service provided. In lieu of cash, web dollar credits are preferred where the website acts as intermediary. In another embodiment, the system **100** may allow the barterers to barter away their securities or financial interest at a different time than when they receive a security or financial interest. This is a "Deferred Exchange."

[0177] **FIG. 7D** illustrates a three party transaction without an intermediary. In this example, barterer "A" receives cash for security or financial interest X. Barterer "B" receives security or financial interest X in exchange for security or financial interest Y. Barterer "C" receives security or financial interest Y for the cash which is received by barterer A.

[0178] **FIG. 7E** illustrates a two party exchange with an intermediary. Barterer "A" wants to exercise a Himmelstein

Option (i.e. have settlement and take title) to own the security in the Himmelstein Option. In this illustration, the system **100** may require in the Agreement that to exercise the Himmelstein Option, the barterer must do so through the system **100**. Barterer A trades the Himmelstein Option on financial interest X for the actual interest X to the intermediary. The intermediary acquires the interest X from source B in exchange for consideration Z. The intermediary then maintains Himmelstein Option for X in its own portfolio for future bartering. Z may be web dollars or some other security or interest acquired by the website in a similar manner. Alternatively, if the value of Z is more than the Himmelstein Option for X, the system **100** allows Barter "A" to exercise the Himmelstein Option (i.e. have the settlement on security X).

[0179] Where the system **100** or a designated entity acts as an intermediary, a barterer can create a barter order that does not require a security at the same time it barter away its own security. For example, an individual may allow their security to be bartered for an interest of equal value, which the barterer can identify at a later time. The understanding being that the barterer can defer the completion of the transaction by the website or a designated entity acting as intermediary. If another barterer accepted the barter order terms, the funds for the transaction are immediately placed in an escrow account. For example, if the current tax law permitted, the system **100** would allow "X" number of days to choose a particular security and "X" number of additional days to actually acquire the new security. Therefore, the website or a designated entity may hold the securities in escrow as a third party. The website or a designated entity may, upon being directed by the barterer who has funds in escrow, acquire a specific security to complete the barter. In this embodiment, the system **100** may continually update the barterer with respect to the security such as stocks (re: stocks that the individual informed the system that they were interested in) with respect to the current "closest" matches for a specific stock or range of stocks that exist in the database system, based on the value ratio formula(s) that were previously defined herein. This can be done by either e-mail, phone, or when the barterer accesses the website. While online, the system **100** may continually update the closest matches, thereby permitting an individual to either ignore, choose one, or choose multiple ones. If the individual chooses a match or several matches, with excess remaining funds, these excess funds are held in escrow.

[0180] The system **100** may be configured to only barter Himmelstein Options or the future rights. Reiterating, a Himmelstein Option is an agreement given by the individual that owns the barter item or security, an irrevocable right to another party that after a specific date and before a specified date, this party has the right to "go to settlement" and acquire the barter item or security. Further, the Himmelstein Option allows the party in possession or any party currently in possession to barter said Himmelstein Option, i.e. transfer said rights for settlement. Barter order parameters then include an "after date" upon which a Himmelstein Option may be exercised and an "expiration date" that the Himmelstein Option expires. The expiration date may be an indefinite date. For example, barterers may do this to diversify their portfolios where they do not have the right to sell a security immediately, (such as via a preexisting agreement with an employer company). If the security is unregistered, the system can, after the holding period, directly process the

stock with a designated transfer agent in order for it to be allowed to be transferred, i.e. go to settlement. In this instance, only Himmelstein Options are able to be immediately bartered since the barterer cannot transfer the security until after a specific date.

[0181] The Himmelstein Option value and security value may be different, and usually would be different if the Himmelstein Option expiration date is a specified date and not open or "indefinite". Both dates and values are preferably displayed for matching barter orders in a manner similar to the display of FIG. 6.

[0182] Acting as an intermediary, the system 100 can hold a barter item or security in a trust account if, or until, someone exercises a Himmelstein Option to acquire it. A barterer posting a Himmelstein Option barter order chooses the after and expiration date which date(s) must be within the terms of their Himmelstein Option if they are not the actual owner of the security. The system 100 may prompt the expiration date as "indefinite", with the barterer who is creating the Himmelstein Option away having the ability to modify the Himmelstein Option barter order with a specific date. The value of the "Himmelstein Option" is worth less if there is an expiration date, at which time the Himmelstein Option no longer exists. If the barter item or security subject to the Himmelstein Option is held in trust by the system 100, the system returns the item or security upon expiration date to the barterer who had offered the Himmelstein Option or the party who settled the Himmelstein Option and obtained "title." The purpose of the system 100 holding the security "in escrow", or in trust, is to ensure that a barterer acquiring a Himmelstein Option has a complete assurance that their right of ownership is "guaranteed" should they exercise it at a future date. The system 100 has the ability, (if it were a security such as stock or a mutual fund), to include or exclude the dividends, long term gains and losses and short term gains and losses. If the dividends, long term gains and losses, and short term gains and losses were included, at the end of each tax year, the 1099-DIV and gains and losses issued may be transferred to the system 100 as the "nominee" which may in turn, make the "nominee" the individual who had obtained the Himmelstein Option or the rights of ownership to the security.

[0183] Himmelstein Options having an "after date" and an "expiration date" when settlement can occur has a number of benefits for individual barterers. A barterer bartering away securities can ensure that a sale occurs after the barterer has owned the security more than one year so that any income is taxed at capital gains rate instead of ordinary income rate. If a barter works for a company that requires them not to sell the security for a specific time period, but the barterer wants to diversify their portfolio, the system 100 allows them to do so.

[0184] The system 100 has other advantages. For example, incorporating the security stock into a Himmelstein Option that is bartered removes uncertainty (i.e. future risk). This is beneficial in many instances. For example, successful, educated investors desiring to decrease their stock portfolio can recognize this benefit and utilize the Himmelstein Option to reduce their stock portfolio in a controlled manner.

[0185] Since the system 100 allows securities, such as CD's to be incorporated into a Himmelstein Option, if one wanted to become liquid prior to maturity, one can barter

away a Himmelstein Option on the CD in lieu of incurring a penalty for early redemption. The net value of the Himmelstein Option issued is logically set by the barterer to be less than the penalty.

[0186] The system 100 is preferably configured to internally track all individual rights when acting as an intermediary or escrow. If a barterer wants to "cash out", the system may permit them to barter their securities including a Himmelstein Option away for cash, or alternatively require them to exercise their Himmelstein Option and then sell their securities that they acquired.

[0187] For tax purposes, the system 100 can require a barterer to transfer with the security their estate exemption (or a portion thereof) up to the allowed estate exemption amount (which is currently \$625,000) as a gift. In this case, the barterer is not entitled to this at death. When that individual receives a security in return, the individuals from whom the security came would also have given an estate exemption. Also, the system 100 can be configured to utilize the gift tax exemption. In essence, allowing a barterer to gift up to the maximum non-taxable amount, which is currently \$10,000.00, to each and every individual that they barter with at which time they receive the same amount back in the security such as cash as "a gift". This requires all gift transactions to be less than or equal to \$10,000.

[0188] If Section 1031 of the Internal Revenue Code of 1986 is amended to include securities as defined earlier, the present system can be configured to effectuate a tax-deferred exchange should one or both bartering parties desire such. Further, the system 100 can be adapted, modified or changed to utilize or capitalize on any existing or future tax laws.

[0189] Per the S.E.C., barter transactions or transfer of rights are not registered. Thus, this system permits bartering in a discrete and/or anonymous manner, (i.e., not informing the public). However, the system 100 is preferably configured to compile historical barter information regarding barter transactions of each barter. Additionally, the system 100 may be modified to meet S.E.C. regulations, if required. Terms and Conditions in a Himmelstein Option can include contingencies for settlement. For example, a Himmelstein Option may be bartered with a contingency that for settlement it must meet SEC approval.

[0190] The present system permits any type of securities or financial interests to be bartered, including but not limited to CD's, stocks, bonds, notes, evidences of indebtedness or interest, interests in a partnership, certificate of trust or beneficial interest, etc. The system 100 can interface with or be incorporated as part of online companies in such a fashion that it is transparent to the clients of the online trading company. When a client from an online trading company desires to purchase a particular security, the online trading company may choose to acquire, if available, from another individual who has entered a transaction to barter their security away. The online trading company can act as the intermediary and barter for the security, in essence making the online trading company the system 100 barterer with the ability to acquire new stock and/or any security, and then sell it to their online client. By doing this, the online company can keep the entire spread between the "ask and bid" with no commissions, and undercuts traditional stock exchanges in price and speed by eliminating intermediaries such as floor brokers or specialists from the trading process.

[0191] The system **100** can be configured to handle “exchange funds” often known as “swap funds” or (Private Placement Memorandum) P.P.M. wherein an individual puts in their financial interests or security (such as stock shares) into the fund for exchange units of the entire fund. This allows the individual to diversify their financial interests or securities such as stock holdings without having to pay capital gains taxes. In such a case, the system **100** maintains “system” funds and barterers exchange various financial interests for units of the “system” fund. The system **100** can also be configured to further open and close new funds when deemed necessary by the system or by pre-set parameters.

[0192] The system **100** can allow barter orders to require only some security up front at the time of the Himmelstein Option Agreement being consummated. This portion of the security or commodity may or may not be refundable. The balance of the Agreement would only be paid if the Himmelstein Option is finalized, or ownership of the security is transferred.

[0193] For example, a posted transaction can state that the Himmelstein Option must occur after Jan. 5, 2000 and before Jan. 6, 2000 and the barterer is bartering AOL stock for cash or web barter dollars for \$5.00 per share paid immediately which is non-refundable and \$95.00 per share at settlement. Individuals accepting this Himmelstein Option must pay the \$5.00 per share, which is non-refundable. On Jan. 6, 2000 if the AOL stock is less than \$95.00 per share, the individual will choose not to exercise their rights in the Agreement, thereby allowing the Agreement to expire. This is to be defined as selling long, in the “virtual stock market”, (i.e., system **100**).

[0194] In an alternative embodiment, the system **100** may allow a barterer to issue a Himmelstein Option on a security that the barterer does not own, nor have a Himmelstein Option (i.e. rights to own) on. If, or when, the Himmelstein Option is chosen (for example, by person “A”) the barterer is required to acquire the security or the Himmelstein Option that was being traded away, on or before the date after the barter transaction may occur, to then hand it over to person “A”. This is to be defined as selling short or trading futures in the “virtual stock market” (i.e. system **100**).

[0195] The virtual market (i.e. system **100**) can handle what is referred to in the financial industry as a margin account wherein the system **100** allows the barterer to borrow web barter dollars, cash or issue Himmelstein Options against the value of their portfolio including Himmelstein Options in their possession.

[0196] When someone issues a Himmelstein Option, the barter transaction can also allow the person issuing the Himmelstein Option to enter a different before and after date for the Himmelstein Option for the new security desired. Therefore, in this embodiment, the system **100** may require the person posting the transaction for the Himmelstein Option for the security desired to give a specific date before, and a specific date after, or a range of dates that would be acceptable. This range of dates may be disclosed to potential barterers; or in the alternative, can be undisclosed (making a potential barterer be required to choose specific dates, before and after) without knowing the range of dates that the individual posting the Himmelstein Option used.

[0197] With respect to the securities that provide dividends, interest etc., the system **100** can further do the following. The system **100** may keep the dividends, interest etc. as part of the transaction, and may put in a common “pool” all dividends, interest etc. realized. A formula is used to proportion the amount between any, and all, clients holding Himmelstein Options for the specific class of items.

[0198] The system **100** can require barterers to enter Himmelstein Options or barter orders in round lots. For example, if the security was stock, the system **100** can require increments of **100** shares.

[0199] The system **100** can have the ability to break down posted order(s) into specific dollar and or quantity amount(s) allotment and re-post. For example, if the system **100** chose to break down into a specific dollar amount, the system **100** can choose one thousand dollar amount(s) or block(s). If someone posted 10 shares of IBM stock at \$110.00 for each share, the system **100** can re-post to be 2 barter orders: one order to be 9 shares of IBM stock with 10 web barter dollars; and one order with 1 share of IBM stock as the residual amount. In another example, if the system **100** chose to break down into a specific quantity amount in the security “stock”, the system **100** may decide to break down posted orders to allotments of 100 shares and post the remaining portion (if any) that isn’t dividable by **100**. For example, if the posted order was 1220 shares, the system **100** can re-post to be 13 barter orders: (12) barter orders with 100 shares and (1) barter order with 20 shares. Further, if the system **100** wanted all residual amount(s) to be a specific figure, the system **100** can require the balance of the security plus web barter dollars to always be a specific value. The purpose is to simplify the barter values to be essentially equal to a common value or multiple common values in the system **100** to facilitate more barter transactions.

[0200] As a “virtual stock market”, the system may allow all securities to be in decimal format or dividable by 100, 1000 etc. This means that even a Himmelstein Option (no matter the security stated in the Himmelstein Option) can be in decimal format or dividable by 100, 1000 etc. Therefore 1.00=1 total unit of the particular security. For instance if the security is stock, 1.00 would equal one share of stock for a particular company.

[0201] Therefore, any fractional or decimal amount created from a barter transaction can be worth for example, as little as 0.001 of a web barter dollar or 0.001 of a U.S. dollar. Specifically, if Individual “A” posted a barter order to barter away 100 shares of AOL stock at \$85.00 per share while desiring IBM shares at \$180 per share, the system may, (if an available match existed or if it was a direct barter with the website) complete the barter order and provide 47.22 IBM shares at \$180.00 per share. In this case, decimal amount of 0.22 is worth \$39.60, if \$180 is the current stock trading price per share. Alternatively, the system/barterer may allow, depending on the parameters set, barter 99.53 shares of AOL stock for 47 shares of IBM stock.

[0202] The system can state in all barter agreements (i.e. terms and conditions) that all parties using the system may accumulate “fractional” or “decimal” amounts (i.e. all values less than (1.00) total unit of a particular security) from different parties and upon the sum equaling 1.00, allow the sum to become 1 unit of a security, such as 1 share of stock. It should be noted that for Himmelstein Options, the system would be required to ensure the latest before dates and latest after dates overlap, and the system would restate the before

date and after date to be the latest before date and earliest after date of all the fractional or decimal amounts.

[0203] Preferably, the system maintains a history knowing which fractional or decimal amount came from which security, such as stock, and can, when beneficial to the system and/or the barterer, re-separate a unit of a particular security and rematch it back together with a portion of the original security that had been part of the actually split. If for a Himmelstein Option, this may change the range of settlement dates.

[0204] Optimally, the system may allow barterers to barter fractional or decimal amounts to other barterers and/or only with the system.

[0205] The system **100** may set the standard for minimum transaction and maximum transaction based upon various concerns, including but not limited to, profitability and or irregularities, illegal trade practices and illegal trade patterns.

[0206] The methodology of the "standard" Himmelstein Option is to allow two or more parties to agree at a future date to barter, exchange or sell items or securities based on current agreed values, regardless of the trading values of the securities at the time of settlement. In an alternative embodiment, two or more parties may agree to exchange or barter at a future date based on values on that future date. In this embodiment, the settlement date or dates for each security may yet be a different date.

[0207] The system may unilaterally determine, or give each individual barterer, the ability to select a closing price for securities as trading days get longer with extended after-hours trading. For example, if a security was stock, the system may permit an individual to choose the traditional 4:00 P.M. eastern/standard time closing price of the NYSE and the NASDAQ market. On the other hand, the system or individual may choose the value based on after-hours trading. For example with the security, stock, or Himmelstein Option for stock, the system uses the closing price as the current stock trading price as noted on **538, FIG. 5D and 506, FIG. 5A**.

[0208] The system **100** can operate 24 hours a day or during standard market hours and/or during predefined after hours trading or a combination thereof. The system **100** can further allow specific securities to be traded/bartered during specific time frames or allow a barterer to choose the hours during which the barterer wants their barter order posted (i.e. available for barter). Furthermore, the barterer or the system may allow the after hours trading market to operate totally independent from the standard market hours session. It may be a selectable parameter by either the barterer or system to determine whether a barter order posted during standard hours will participate in the after trading sessions and vice versa. Also, the barterer or system can determine if un-executed barter posted orders placed in either the standard or after hours session carries over to the other session or gets canceled.

[0209] The system can ensure that barterers remain anonymous from one another and may utilize trustees, assignors or intermediaries to accomplish such.

[0210] The system can also allow any barter order to be canceled under specific terms. Further, if the order was not

"locked" by a barterer or already processed, the system can permit an individual who created the barter order to cancel or modify same.

[0211] The system can also utilize the latest security features and encryption methods available.

[0212] The system may permit an individual to post a barter order with a range of quantities acceptable to the individual. For example, if the individual posted IBM stock with a range of 5-10 shares, this means that the system can accept a barter order for any quantity between 5-10 shares. This increases the likelihood of the barter transaction occurring. As will be recognized by those skilled in the art, the fee structure charged by the system may be modified to handle this embodiment.

[0213] The system **100** can also conduct or perform auctions wherein the system **100** can further require: 1) a bidder to bid with a specific security; 2) a bidder to bid with a specific list of securities pre-approved; 3) require various conditions on a bidder such as requiring security to be held by the system/designated agent; 4) pre-approve an individual to bid and 5) Minimum bid requirements may exist. The system **100** may use the embodiment that allows "offers" and allows communications between potential barterers using the system's e-mail subsystem.

[0214] An agreement for a Himmelstein Option can state various additional conditions such as requiring that the barterer in possession of or in ownership of a Himmelstein Option must first offer or sell same to the system **100** and/or owner of the security prior to going to settlement. The system may allow a barterer creating Himmelstein Options the ability to draft specific conditions to essentially create a custom contract to meet the barterer's needs.

[0215] If the system **100** utilizes an intermediary or designated agent, the system **100** has the ability to fully communicate in such fashion to ensure that all securities are transferred back and forth in a proper controlled and secure fashion.

[0216] The system can authorize and permit an individual to access the ebarterrealestate.com system and utilize an intermediary, or directly barter for real estate.

[0217] Referring now to **FIG. 8**, the posted barter order database module **116** stores posted barter orders **806**, provides access routines **802** and performs maintenance of the database **804**. Among the access routines **802** are add order record, delete order record and get order record.

[0218] The add order routine generates a database record that comprises the barter order in addition to a unique transaction number, the time and date stamp of the order and the account number. There are numerous delete routines to remove posted barter orders based on different criteria. Some of the criteria are account number, transaction number, time and date, and barter item. Similarly, the get routine can return records based on the same criteria.

[0219] The maintenance program **804** executes periodically, or optionally at the request of and access routine **802**, to remove and modify posted barter orders. For example, orders may be modified if a stock split occurs and the barter order designates this stock or a Himmelstein Option for the stock. Orders can be removed for a number of reasons such as the barter order expires, the barter account closes or the

barter item is no longer available. For example, a barter order can be removed if stock trading is halted and the barter order designates this stock.

[0220] Barter orders are modified by the maintenance program 804 under a number of circumstances. A stock symbol designated in an order may have changed or the account number of the barter order is changed. Optionally, maintenance program 804 generates indexes and tables to facilitate quick access to the database records.

[0221] Optionally, if the system included a separate database of each individual's portfolio for all securities, the system can perform similar access routines and maintenance routines as described above.

[0222] With reference to FIGS. 11 and 15, these figures represent alternate graphical user interfaces to those shown in FIGS. 5A-E, by which users may place barter orders. FIG. 12 illustrates a response screen to a barter order which is an alternate graphical user interface to FIG. 6, while FIGS. 13 and 14 illustrate help instructions for that response screen.

[0223] One recognizes that many modifications may be made to FIG. 12, either in the column headings or in the way that the information in the rows is expressed. For example, additional column headings can include "buy-side shares", "trade price for the buy side/trade-for side" and/or "trade price for the sell side/trade-away side". Also in FIG. 12 on the line where "you save" \$75.00, the savings can be expressed as \$0.075 per sell side/trade-away side share, or \$0.15 per buy side/trade-for side share. The "you save" amount can be either positive or negative. The figure can display another column "equivalent purchase share price" wherein for this line the entry is \$100.10, showing that the user can save \$0.15 per share relative to the buy side/trade-for ask price. In other words, for IBM, $\$100.10 = \text{the } \$100.25 \text{ ask price} - \$0.15 \text{ savings per share}$. Likewise, an "equivalent sale share price" can be shown as \$54.20; i.e., for HD, $\$54.20 = \text{the } \$54.125 \text{ bid price} + \$0.075 \text{ savings per share}$. The savings per share on the sell side is one half the savings per share on the buy side because twice as many shares are being sold as being bought.

[0224] With reference now to FIGS. 33-54, other alternative graphical user interfaces are shown to those described above. More specifically, FIG. 33 shows a control center GUI through which users can enter and process barter orders and populate the order book, or database of posted barter orders, with marketmakers further able to enter and process rules for automatically and/or manually processing barter orders. The information in the help screen of FIG. 34 provides an overview of placing and processing barter orders.

[0225] The GUI of FIG. 35 illustrates the contents of the Order History tab in the Control Center of FIG. 33, while the GUI shown in FIG. 36 shows the contents of the Saved Orders tab of the Control Center.

[0226] FIG. 37 shows a GUI accessible by clicking the "trade" option from the Saved Order screen of FIG. 36 which provides a trader with the option to place "Trade From Order Book," market order and limit order barter orders. The related instructions in the help screen of FIG. 38 describe the various processes of entering and processing a barter order.

[0227] The GUI of FIG. 39, selectable by clicking the Trade From Order Book button of the order entry screen of FIG. 37, along with related help instructions in the help screen of FIGS. 42 and 43, provides an interface for viewing and analyzing barter orders available in the limit order book stored in database 116. The Level II Quotes screen of FIG. 40 and the Internal and External Offers screen of FIG. 41, with the associated help instructions shown in FIGS. 42 and 43, provide user information for interpreting the level II quotes and internal and external offer information.

[0228] In an alternative embodiment of the invention, the system 100 may require a barterer to enter only (1) the symbols for the assets that he wants to barter, and (2) either (a) the ratio of the shares of one asset to the shares of the other asset, or (b) the ratio of the currency value of one asset to the currency value of the other asset. The barterer does not have to enter (1) which symbol corresponds to the buy side and which corresponds to the sell side, or (2) the exact quantities of each asset to be bought and sold.

[0229] In the instance where exact quantities of shares or currency values are entered but the asset symbols are not specified as buy side and sell side, marketmaker responses generated by the Marketmaker Toolkit are presented on two sides: one for when the barterer wants to purchase the first-entered asset and one for when the barterer wants to sell the first-entered asset.

[0230] In the case where the ratio of share quantities or currency values (rather than exact quantities of shares or currency values) are entered, marketmaker responses generated by the Marketmaker Toolkit are presented on a per-share or per-currency unit basis. There are many variations on how such responses may be generated; for example, (1) price per 100 shares of the buy side asset, and (2) price per US \$1,000 of the sell side asset. Other variations will occur to those skilled in the art. Alternatively, system 100 may require that all entered orders have equal buy side and sell side currency amounts (subject to a non-zero tolerance so that trades may be executed in integer shares, integer currency units, or multiples of these, such as 100-share units). Accordingly, in these embodiments a barterer would enter only the symbol for the assets to be bartered, without indicated shares, currency values, or a ratio thereof. In these embodiments, marketmaker responses generated by the Marketmaker Toolkit are presented on two sides and on a per-share or per-currency unit basis. In a variation of these embodiments, the exact quantity of either the buy side or sell side, but not both, may be entered by the barterer. With reference to FIGS. 39, 40 and 41, the savings amount shown in the Limit Order Book's individual offers (and, by extension, the Quick Fill offer) represents the monetary difference realized by a user between trading on offers that include system 100's internal offers ("System Offers"), and trading on offers that are exclusively national market offers/external offers ("Benchmark Offers"). These savings amounts may be computed by a variety of methodologies, depending on what offers are included in System Offers and what the Benchmark Offers are assumed to be. The System Offers may or may not include offers from the national markets. Further, the Benchmark Offers may be based on reasonable hypothetical assumptions. One assumption is that the only national quantities available to trade are those shown directly in the Level II quote system. A second assumption

is that the total size of the incoming barter order is available to be traded at the National Best Bid and Offer (NBBO) prices. This assumption would lead to a smaller (or more negative) Savings amount than would the first assumption. A third assumption is that a fixed number of shares is available to trade at every 0.01 price increment for each security in the barter order. Price increments other than 0.01 could also be used. A fourth assumption is to assign a (different) quantity of shares available to trade to each marketmaker, each exchange, and each ECN, shown on the Level II quote system. These and other assumptions may be appropriately used in calculating user savings.

[0231] In the lower portion of the Limit Order Book (LOB) shown in FIG. 39, the System Offers are ranked from most attractive (top line) to least attractive (bottom line) according to “MSFT Ask” price (in general, this price is the ask price of the buy-side security). This ranking is based on the assumption that a trader can sell the sell-side security on its NBBO bid, and purchase the buy-side security at the variable ask price shown in the System Offer. The higher this ask price, the more the trader must pay and the less attractive the offer becomes.

[0232] Other methodologies can be used to rank offers. For example, an assumption can be made that the buy-side security is always purchased at its then-current NBBO ask price, while the sell-side security is sold at a variable bid price. In this case the lower the variable bid price, the more a trader pays (or the less he receives) and the less attractive the internal or external offer. Other methodologies can be used to specify either the buy-side price or the sell-side price at the time an offer is displayed. Examples include (1) the midpoint of a security’s NBBO bid and NBBO offer, (2) a fixed dollar price, such as today’s opening trade price, or such as \$50, and (3) a price that depends on the size of the incoming order, such as the NBBO ask price plus 0.01 per 100 shares being purchased. Other methodologies may also be appropriate.

[0233] Help information shown in FIG. 44 provides user assistance for trading on individual barter orders in the barter order book of FIG. 39. One option for trading is to execute a Quick Fill, available through the Quick Fill button shown in FIG. 39 as explained in the help screen illustrated in FIG. 45 and resulting in the Instant Confirmation screen shown in FIG. 46. FIG. 47 illustrates a help screen containing information for interpreting the contents of the Instant Confirmation screen of FIG. 46.

[0234] The user help screens shown in FIGS. 48, 49 and 50 provide user assistance for trading individual orders from the order book of FIG. 39. Note the tables of FIG. 49 are illustrated in FIG. 50.

[0235] With reference now to FIGS. 51, 52 and 53, the GUI shown in FIG. 51, accessible from the Limit Order button of the Order Entry GUI shown in FIG. 37, enables a user to enter a limit order for a barter order. The Market Order Entry GUI shown in FIG. 52, similarly accessible through the Market Order button of the Order Entry GUI (FIG. 37), enables a user to enter a market order for a barter order. The help screen illustrated in FIG. 53 provides user assistance relating to both limit and market orders.

[0236] Referring now to FIGS. 10 and 10A, alternative embodiments of the present invention are shown further

including marketmaker 120, basket order 121 and contingency order 122 barter tool kit systems (“tool kits”). Like features to those described above are indicated by like reference numbers. Each toolkit utilizes a software program or programs that interface with the system 100.

[0237] System 100 of FIG. 10A is seen to further include capacity for additional processing modules 123. The system of FIG. 10A further includes an application programming interface 124 specific to barter order interface 105 operable through either a web interface 125 or a custom vendor interface 126. As described above, the various computing devices can interface the barter order system through a public or private network connection, optionally through a website web browser.

[0238] As will be described in further detail below, the use of the toolkits automates certain processes and functions which otherwise might require significant manual activity. As used herein, the term “automate” and variants including “automated,” include the process or operation of notifying an operator that a manual intervention or response is required.

[0239] As used herein, a “marketmaker” is any person or system that responds to order flow by making bids and offers on which another person or entity can trade. Such a marketmaker is said to add liquidity to a market when he allows another to trade on his bid or offer. Also in the context of these specifications a “trader” is any person or system that desires to execute a particular order, including a market or limit order, and is looking for another party to make a bid or offer for such order. Such trader is said to remove liquidity from the market when he executes his intended order. Accordingly, any person or system that, in response to order flow, creates an offer that resides on the Limit Order Book (LOB) is deemed to be a marketmaker, and any person or system that attempts to trade against an offer residing on the LOB is deemed to be a trader. Trader-initiated limit orders residing in the system may be executed by marketmaker offers automatically at any time, with or without appearing in the LOB. Consistent with this paragraph, a person institutionally designated as a marketmaker may desire to enter barter orders as a “trader” in the context of these specifications, while a person or entity who is not a broker-dealer may desire to provide offers through the herein-described Marketmaker Toolkit and act as a “marketmaker” in the context of these specifications. Users of system 100 will thus include both traders and marketmakers.

[0240] As will be appreciated from consideration of the description below, the toolkits as described herein are operative in many instances to respond to both barter orders and barter order requests for quotes. As used herein the term “barter order request” includes both a barter order and/or a barter order request for quote.

[0241] Marketmakers profit by capturing the bid/ask spread on trades, while minimizing the cost of position management or the cost of immediate hedging of these trades. The System 100 is designed to deliver a particularly attractive order in this regard. System 100 order flow carries all of the bid/ask spread profit potential but only a small fraction of the market risk and adverse market impact associated with traditional orders.

[0242] System 100 order flow delivers a traditional buy and a traditional sell order simultaneously. For example, a

barter order might be to buy \$100,000 of IBM and sell \$90,000 of HON, each contingent on the other. By executing these legs at the same time, the marketmaker generates a profit that is proportional to the dollar sum of both legs, or \$190,000, but generates market exposure that is proportional to the dollar difference between the two legs, or only \$10,000.

[0243] Of course, the ultimate attractiveness of a barter order depends on many variables, including the dollar difference between the buy and sell legs, the industry closeness of the stocks, and the liquidity of the two names. System 100 allows marketmakers to use a tool kit, which not only provides the means to measure the attractiveness of any incoming barter order along these and other dimensions, but also to specify how aggressively or passively to respond to it, either on an absolute price and size basis, or in terms of last trade price and size, or in terms of the current NBBO (National Best Bid and Offer) prices and sizes.

[0244] A marketmaker tool kit is a system that allows marketmakers to characterize incoming orders by creating or defining their own rules that include (1) conditions that describe an incoming order, and (2) price/size tiers that form automatic quotes or executions to one or more traders' orders if the conditions are satisfied. These automatic quotes and executions bring greater liquidity to the System 100. For example, marketmakers can write a rule that allows them to manually or automatically offer to trade a barter order at a fixed price, or a market-based price, such as 10% of the NBBO spread under the current NBBO offer, in the current NBBO size, whenever the dollar sizes of the buy and sell legs are almost equal and the two securities bartered are in the same industry.

[0245] One embodiment of a marketmaker toolkit is embodied in the graphical user interfaces and help screens illustrated in FIGS. 16 through 20. Another embodiment of a marketmaker toolkit is embodied in the graphical user interfaces and help screens illustrated in FIGS. 54-76. In the first embodiment, FIG. 16 shows a GUI interface by which a marketmaker can establish automatic bid/offer responses. FIG. 17 shows a GUI for working with symbols related to the automatic bid/offer responses, while FIGS. 18, 19 and 20 illustrate help screens containing user instructions for the marketmaker toolkit.

[0246] With reference to the second embodiment, FIG. 54 illustrates a GUI interface for marketmakers to establish both automated and manual bid/offer responses, with associated help instructions shown in FIG. 55. FIGS. 56 and 57 show a GUI interface and help instructions, respectively, for establishing rules, while FIG. 58 shows a GUI interface for establishing conditions in accordance with the help screens shown in FIGS. 59-61.

[0247] FIG. 62 shows a GUI through which a marketmaker can establish and edit pricing tiers in accordance with the help information provided in the illustrated help screen of FIG. 63.

[0248] FIG. 64 shows a GUI interface for creating a customized ticker of securities information useful to a marketmaker in accordance with the instructions shown in the help screen of FIG. 66. One exemplary ticker is illustrated in FIG. 65.

[0249] FIG. 67 shows a GUI interface for creating a customized position/profit & loss report useful to a market-

maker in accordance with the instructions shown in the help screen of FIG. 70. Two exemplary position/profit & loss reports are shown in FIGS. 68 and 69, respectively.

[0250] FIGS. 71 and 72 show GUIs for establishing manual offers, wherein barter orders that meet the established conditions are provided to the marketmaker for generating a manual response. Associated help instructions are illustrated in the help screen shown in FIG. 73.

[0251] The barter matching engine 118 incorporates or interfaces with the various rules, conditions and pricing tiers a marketmaker establishes using the marketmaker tool kit shown and described above, to selectively match a barterer's barter order (that is either posted or requesting a quote only) to rules that are pre-defined by a marketmaker, in order to determine which marketmakers are providing automatic quotes or executions. A rule is a list of one or more conditions that may comprise a parameter (variable), an equality or inequality sign (operator), and a constant value (constraint). A parameter is a market-related, portfolio-related, or other type of variable that characterizes an order. For example, the average daily volume of the security being traded away is a parameter. A constant value may be a numerical value or string value (e.g., a security symbol) that places a constraint on a parameter. One condition, for example, can be "Average Daily Dollar Volume of the Stock being Traded Away" >=\$2 million. Here, the parameter is "Average Daily Dollar Volume of the Stock being Traded Away", the inequality is "greater than or equal to", and the constant value (constraint) is \$2 million.

[0252] Optionally, the tool kit can be set up so as to pre-designate a parameter and an equality or inequality sign, so that a marketmaker may enter only a constant value to create a condition. Likewise, the tool kit can be set up so as to pre-designate any number of the elements of a condition, so that a marketmaker may enter only the remaining element(s) to create the condition.

[0253] Alternatively, the tool kit can provide the means for marketmakers to be alerted by system 100 to specific barter orders to which they desire to provide manual responses. See again FIGS. 71-73 for GUIs and help instructions used to establish manual responses. For example, a marketmaker may use the tool kit to be alerted if an order to barter for at least 10,000 shares of IBM is entered into the system, so that the marketmaker can evaluate the particular barter order and, if desired, can provide a manual quote for said order. Likewise, a marketmaker can use the tool kit to be alerted if a trader is trading away IBM but not if a trader is trading for IBM. Alternatively, a marketmaker can use the tool kit to be alerted if a trader is trading for IBM but not if a trader is trading away IBM. As another example, marketmakers can cause the system 100 to alert them if a barter order comprises two securities that fall within a list of securities that the marketmaker has pre-designated.

[0254] Marketmakers can use the marketmaker tool kit to specify exactly how many of the conditions that comprise a rule must be satisfied before an automatic price quote or trade execution is delivered to the system 100. For example, a marketmaker can use the tool kit to specify that an alert is to be sent if exactly two of the following three conditions are satisfied: (1) a trader is trading away IBM, (2) a trader is bartering two stocks that both trade an average daily dollar

volume of at least \$2 million, or (3) the dollar amount that is being traded for equals the dollar amount that is being traded away.

[0255] The marketmaker tool kit is designed to allow marketmakers either to use parameters already designed for them, or to create customized parameters. Examples of pre-designed parameters are number of shares or lot size, share price, trade volume, risk characteristics, and inclusion within a specified security list. An example of a risk characteristic of a barter order is "Delta", which measures the amount of market exposure of the order. The Delta is the absolute value of the difference between the currency amounts of the two legs of the barter order, divided by the maximum currency amount. If the trader is trading away a currency amount of US\$100,000 and trading for an amount of US\$75,000, then the Delta is $25\% = |100000 - 75000| / \max(100000, 75000)$. It would be recognized by one skilled in the art that many variations may be made in the structure and mode of operation of the tool kit without departing from the spirit and scope of the invention as disclosed in the teachings herein.

[0256] A rule can include both multiple price and size tiers used to generate automatic or manual offers on the Limit Order Book. An example of this is shown in FIG. 62, whereby the offer price may be expressed in terms of (1) the then-current NBBO price spreads for the two component securities, and (2) a pre-specified increment. In the example, the offer size may be expressed in terms of (1) the then-current NBBO sizes of the two component securities, and (2) a pre-specified value, based either on numbers of dollars or numbers of shares.

[0257] Other methodologies for determining offer price and offer size are also possible. These values may depend on a portion of (or all of) the Level II quotes for the two relevant securities. For example, offer size can be expressed as (1) the sum of the first three offer sizes shown on the Level II quote system, or (2) the size of the first offer from a pre-selected marketmaker, exchange, ECN, or ATS, etc., or (3) the sum of the sizes of all Level II quotes whose price is within 0.02 of the current NBBO offer, or (4) a pre-selected currency amount rounded to a multiple of 100 shares. Variations of these examples are also possible. Furthermore, offer price can be expressed as (1) the average of the first three offer prices shown on the Level II quote system, or (2) the price of the first offer from a pre-selected marketmaker, exchange, ECN, or ATS, etc., or (3) the price of the first Level II quote whose size is at least 1000 shares. It will now be apparent to those skilled in the art that many different variations of these determinants are also possible.

[0258] In the matching process, the rules in the marketmaker tool kit functionally operate as a filter to provide barter orders to the appropriate marketmakers. This allows the marketmakers either to post one or more potential trade prices in response to a trader's limit order or quote request, or to execute a single posted limit order or a combination of posted limit orders (i.e., "phantom" or "implied" limit orders, discussed below).

[0259] The contra side of traders' barter orders may be marketmakers. However, some system 100 order flow can be matched against other orders that are internal to the system. As explained previously, many internal orders may need to be combined to make one execution. For example, an order

to sell IBM and buy HON, an order to sell HON and buy CSCO, and an order to sell CSCO and buy IBM, can form a three-way internal match. Likewise, a limit order to sell IBM and buy HON, and a limit order to sell HON and buy CSCO may create an "implied" limit order to sell IBM and buy CSCO, to which a marketmaker may respond, exactly as if the "implied" order were an actual entered barter order.

[0260] System 100 may provide traditional order liquidity to an Exchange, ECN or ATS. One illustrative example includes the following two barter orders:

[0261] Buy 1000 MSFT/Sell 2000 INTC/Pay \$0.

[0262] Sell 1000 MSFT/Buy 1000 INTC/Receive \$30,000.

[0263] If these barter orders reside on system 100, the system can post two traditional orders to an Exchange, ECN or ATS:

[0264] Buy 1000 INTC @ \$30.00,

[0265] Buy 500 MSFT @ \$60.00.

[0266] System 100 posts the former order so that, if a third party trades against it, it can execute both of the barter orders. That is, a three-way match is formed by these orders:

[0267] Buy 1000 INTC/Pay \$30,000 [first Exchange, ECN or ATS order]

[0268] Buy 1000 MSFT/Sell 2000 INTC/Pay \$0. [first barter order]

[0269] Sell 1000 MSFT/Buy 1000 INTC/Receive \$30,000. [second barter order]

[0270] System 100 posts the latter order because if a third party trades against it, then it can execute one barter order in full and one in part. That is, a three-way match is formed by these orders:

[0271] Buy 500 MSFT/Pay \$30,000 [second Exchange, ECN or ATS order]

[0272] Buy 500 MSFT/Sell 1000 INTC/Pay \$0. [1/2 of first barter order]

[0273] Sell 1000 MSFT/Buy 1000 INTC/Receive \$30,000. [second barter order]

[0274] It can readily be determined that the number of one-sided limit orders generated by the above methodology can increase as fast as geometrically with the number of pending barter orders, as long as the orders deal with similar symbols.

[0275] The Limit Order Book (LOB) may show offers that are (1) exclusively internal to system 100, (2) exclusively external to the system; i.e., residing on exchanges, the NASDAQ market, ECNs, ATSs, etc., or (3) a combination of internal and external. Whenever a trader chooses to trade against an external offer, he runs the risk that such offer may change before his order reaches the external market and, hence, that he misses the intended trade. Accordingly, the system 100 may allow a trader to pre-select how such a situation will be resolved. The trader may choose between using market orders and using limit orders when his offer cannot be executed against the then-current external offers.

[0276] If a trader chooses to use market orders when the intended external offers are not available, his barter order

will be split and will be delivered to the external market as two single-security market orders. Consequently, he will be guaranteed a fill of his entire order, although not necessarily at the price of the intended offer. If a trader chooses to use limit orders when the intended external offers are not available, his barter order will be split and will be delivered to the external market as two single-security limit orders. Consequently, the trader will be guaranteed that if a trade takes place it will be at the intended price, although the trader will not necessarily trade the full amount of his intended trade (and in fact, the trader may not trade at all) and the ratio of the quantities of the two securities traded may not equal the ratio specified in the barter order that was placed originally.

[0277] One advantage of the present invention is that, in contrast to trading on external offers, whenever a trader trades against an internal offer, he is guaranteed to receive the intended price. Furthermore, although he is not guaranteed to trade the full size of his intended trade, he can be guaranteed to trade in quantities that are in the same ratio as that specified in his original barter order.

[0278] In an alternative embodiment, marketmakers, institutional traders and retail traders may use a basket generator tool kit ("basket tool kit") to define a basket of securities that can be sent directly to the market, or bartered against either an individual security or another basket. Graphical user interface and associated help screens illustrating a toolkit for creating basket orders as described below are shown in FIGS. 26-32. More specifically, FIG. 26 and 27 show GUIs for defining baskets of trade items in accordance with the instructions in the help screen shown in FIG. 28. FIG. 29 shows a GUI for defining symbols in accordance with the help screen shown in FIG. 30, while FIG. 31 shows a GUI for establishing fundamental and technical filters in accordance with the user help screen shown in FIG. 32.

[0279] A basket of securities ("basket") is defined to be at least two different securities, grouped in any combination of descriptions or sizes. The basket tool kit may allow traders to define a basket in terms of its market characteristics or risk characteristics, including fundamental, technical, and macroeconomic factors. Traders may also use the basket tool kit to select securities from existing portfolios. The individual securities' symbols may or may not be explicitly included, explicitly excluded, or a combination of both. In a simple form, the basket tool kit may be used to create a basket of all utility stocks (with no symbols specified) with market capitalization greater than \$1 billion. It may be used to create a basket of all technology stocks with beta to the NASDAQ Composite Index greater than one. In more complex cases, a trader can use the basket tool kit to create a basket equal to all of the bank stocks in the trader's existing portfolio, plus enough 10-year T-bills to bring the total interest rate exposure of the basket to a specified level. Or, a trader can use the basket tool kit to create a basket of \$200,000 of each healthcare stock whose 10-day moving average exceeds its 50-day moving average. Or, the trader can use the basket tool kit to create a portfolio with specified weightings of specific industrial sectors.

[0280] It will be recognized by one skilled in the art that many variations may be made in the structure and mode of operation of the basket tool kit for defining baskets of securities without departing from the spirit and scope of the invention as disclosed in the teachings herein.

[0281] One also skilled in the art realizes that basket trading can be accomplished without the use of a basket tool kit. In one embodiment, the order entry screen can provide the trader a button to click, which indicates that a basket trade is being entered. The order entry screen may request traders to enter the number of securities to be included in the basket; or, in the alternative, may allow multiple entries of securities until such time that a null entry is made.

[0282] When entering a basket, traders can include the respective number of shares or currency amounts of each security, plus either a limit price for each security, or an overall limit price for the basket. The traders may specify the ratio among the securities; or, in the alternative, the system calculates the ratio among the securities. This allows traders the ability to barter a basket as if it were a single security (i.e., trade away one security or a basket for one security or a basket). As the subsequent example demonstrates, a basket can be automatically executed based on the derived or implied ("implied") bids or offers for the different securities within the basket. This allows the trader not to have to monitor the price movements of the different securities continuously.

[0283] For example, a trader creates a basket, which has two securities: MSFT and HD noting 500 shares of each and an overall limit price for the basket of \$87,500. If traders wanted to sell the basket, they can enter this as a sell order. If traders wanted to barter this basket away, they can enter this as a barter order and state this as the "trade away" item. Upon the order's being entered, the system automatically generates two implied orders based on the overall limit price of the basket and current market prices for the two individual securities. For example, if a trader enters an order to sell the basket, and if MSFT has a bid price of \$100.40 and an ask price of \$100.55 and HD has a bid price of \$74.30 and an ask price of \$74.60, then the system generates two implied offers. For MSFT, an implied offer to sell 500 at \$100.70 is generated. The MSFT offer price is calculated as $[(\text{Overall sell limit for the basket}) - (\text{HD shares}) * (\text{HD bid price}) / (\text{MSFT shares})]$. Numerically, this formula produces: $(\$87,500 - 500 * \$74.30) / 500$, or \$100.70. Therefore, if this implied MSFT order can be executed then the total basket can be executed because the remaining part of this basket order can be simply executed against the market bid for HD of \$74.30. Similarly, an implied offer to sell 500 HD at \$74.60 is created in response to the current market bid for MSFT of 100.40. That is, the HD offer price is $(\$87,500 - 500 * \$100.40) / 500$. These implied orders are monitored and recalculated continuously as market prices change. For example, if the current market bid for MSFT changes to \$100.60, the implied offer for HD changes to \$74.40. When someone enters a bid that matches one of the implied offers, all remaining securities in the basket are automatically filled at the current market offers. At execution, all remaining implied orders are deleted from the system.

[0284] In another alternative embodiment, traders may use a contingent order delivery tool kit ("contingency tool kit") as a means to control the timing of the delivery of an order (buy, sell, or barter order) and the definition of its limit, based on current and historical market data for any security, not just the primary order security. Traders may also use a contingency tool kit as a means to control the timing of the delivery of a barter order request for quote. Exemplary graphical user interfaces and help screens associated with a

contingency order toolkit are shown in **FIGS. 21 through 25**. More specifically, **FIG. 21** shows a GUI for defining an order contingency in accordance with the help screen instructions illustrated in **FIGS. 22 and 23**. **FIG. 24** shows a GUI for sending a contingent order to system **100** in accordance with the instructions shown in the help screen illustrated in **FIG. 25**.

[0285] The primary order (i.e., excluding the contingency) can be a market order, a traditional limit order with a pre-set limit, or a new type of limit order where the limit is market-dependent and may change in real time.

[0286] Basic examples of the new type of limit order are:

[0287] Buy xxx shares of IBM at the then-current offer (i.e., when the contingency is satisfied).

[0288] Buy xxx shares of IBM at the 10-day moving average.

[0289] Buy xxx shares of IBM at today's low.

[0290] A case where the limit of a non-contingent order depends on other than IBM data is: Buy . . . IBM at yesterday's closing price plus (Beta of IBM vs. SPY)*(today's % price change in SPY).

[0291] The contingencies can look like anything (IBM is the primary order symbol):

[0292] Submit order if QQQ is at it's daily low after 3:45 pm.

[0293] Submit order if CSCO and SUNW are each up at least 2%.

[0294] Submit order if SPY rises above its 20-day moving average.

[0295] Submit order if QQQ/SPY \geq 0.25.

[0296] Submit order if IBM falls to its first Fibonacci retracement level. (or other types of technical indicators.)

[0297] The contingency tool kit can also be based on fundamental data, like earnings announcements.

[0298] It will be recognized by one skilled in the art that many variations may be made in the structure and mode of operation of the contingency tool kit (for defining the timing and limit based on current and historical market data for any security, not just the primary order security) without departing from the spirit and scope of the invention as disclosed in the teachings herein.

[0299] It is the intention of the inventors that the basket tool kit and the contingency tool kit may be used jointly or severally with both traditional (single-security buy and sell) orders and barter orders. It is further the intention of the inventors that the marketmaker tool kit may be used with traditional (single-security buy and sell) orders, basket order, and a user bartering a basket for another basket ("barter basket order"). Although the tool kit was described in detail for use with a barter order, it also can apply to the above types of orders. Changes apparent to those skilled in the art can be made to the tool kit to adapt to each of these types of orders. For example, marketmakers can have the ability to encode procedures for responding to traditional (single-security buy and sell) orders (with either a bid or an offer, as appropriate) based on various characteristics. The

characteristics of an incoming order that can be assessed by the described system include:

[0300] action (buy or sell), price, and quantity of the order,

[0301] the current NBBO "picture" of the incoming security; that is, last trade, bid price, ask price, bid size, ask size, daily price change, and last tick (i.e., uptick or downtick),

[0302] current information about Level II quotes for the incoming security (e.g., SLKC bidding for 1000 shares five cents below the NBBO bid),

[0303] historical price information (e.g., 30-day percentage price move, current 20-day moving average),

[0304] historical technical indicators (e.g., current level of Fibonacci retracement lines),

[0305] current and historical fundamental information (e.g., price/earnings ratio, five year earnings growth rate),

[0306] marketmakers' current inventory information (e.g., currently short 2000 MSFT, currently long \$2 million of securities in NASDAQ 100 index),

[0307] marketmakers' historical trade information (e.g., bought 5000 MSFT today, sold 10,000 INTC in last 5 minutes, bought \$500,000 of securities in NASDAQ 100 index today), and

[0308] price, technical, and fundamental information about the general market (e.g., Dow industrials down 50 points today).

[0309] Marketmakers are able to set up price/size tiers for automatic responses and are further able to set up Marketmaker Toolkit Monitors (Trade Tickers, and Position and P&L Reports) as they do for two-sided orders. Responses can be placed automatically, that is without directly viewing the incoming order, or manually.

[0310] In another example, should a marketmaker be using the tool kit for a barter basket order, the marketmaker may have the tool kit describe a basket order in terms of industry composition and certain risk characteristics with or without revealing industry symbols and/or individual symbol amounts.

[0311] It will be understood that while the illustration of the marketmaker, basket and contingency order toolkits has been described above with respect to the creation and execution of barter orders for stocks, the invention is not limited to barter orders but contemplates all manner of other trades. Further, the invention is applicable to all classes of items and securities described in **FIG. 9**, including but not limited to, (1) currencies, (2) fixed income securities such as bonds, convertible bonds, and preferred stocks, (3) spot and forward energy, metal, grain, and soft commodities, and (4) futures on equities, bonds, currencies, and commodities, and indexes of these assets. The only requirement for using the marketmaker toolkit is that the assets that comprise a barter order must have publicly available, real-time disseminated market information associated with them.

[0312] If the disseminated market information on an asset includes a bid, an offer, a bid size, and an offer size, then the

marketmaker toolkit can be used just as for equities, except with different asset lists and different Condition Variables used to describe the asset. For example, one of the conditions used to describe a bond is "Time to Maturity", which is not an equity Condition Variable.

[0313] If the disseminated market information on an asset includes a bid and offer, but not bid size and offer size, then the marketmaker toolkit price/size tiers may not be based on current size information. However, the price/size tiers can be based on the marketmaker's desired trade size. For example, instead of a price/size tier being expressed as "90% of the NBBO spread/\$20,000 plus NBBO offer size", it can be expressed as "90% of the NBBO spread/\$50,000".

[0314] If the disseminated market information on an asset does not include a bid and offer, then the marketmaker toolkit price/size tiers may not be based on this information. However, the price/size tiers can be based on the price at which the asset last traded. For example, instead of a price/size tier being expressed as "90% of the NBBO spread/\$50,000", it can be expressed as "Last Trade +0.01/\$50,000".

[0315] Other modifications, configurations and adaptations will be apparent to those of ordinary skill in the art and are within the scope of the present invention.

What is claimed is:

1. A method operable on a computer for responding to a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter, the method comprising the steps of:

receiving a rule including at least one condition for automatically responding to the barter order;

comparing on the computer the barter order to the at least one condition comprising the rule; and

automatically responding to the barter order in accordance with the at least one condition of the rule.

2. A method in accordance with claim 1 wherein:

at least one of the first security or the second security includes a quantity thereof; and the barter order further including an effective time range.

3. A method in accordance with claim 1 wherein the at least one condition includes at least one variable selected from the group of variables including: the identity of one or more of the first and second securities, the delta between the buy and sell prices of the first and second securities, the relationship of the SIC codes of the first or second securities or any other securities, the market cap of the first or second securities, the average daily volume traded of the first or second securities and the debit value of the bid/ask spread of the first and second securities.

4. A method in accordance with claim 3 wherein each of the conditions further includes a mathematical operator and a value.

5. A method in accordance with claim 1 wherein:

each of the rules further includes at least one pricing tier comprising an offer price range within which a rule is operative and an offer size value up to which a rule is operative; and

if the rule is operative and if the at least one condition of the rule is satisfied, then further comprising the steps of:

if the barter offer is a limit order, performing one of the steps of trading the first and second securities, and posting the barter offer for consideration for execution;

if the barter offer is a market order, trading the first and second securities; and

if a contra barter offer is accepted, trading the first and second securities.

6. A method in accordance with claim 1 wherein the step of automatically responding includes prompting the operator to provide a manual response.

7. A system for responding to a barter order, the system comprising:

a processor;

a memory operatively connected to the processor and storing the barter order including a first security to be sold in the barter and a second security to be purchased in the barter;

said memory further storing a rule including at least one condition for automatically responding to the barter order;

the processor operative with control instructions stored in the memory to perform the steps of

comparing on the computer the barter order to the at least one condition comprising the rule; and

automatically responding to the barter order in accordance with the at least one condition of the rule.

8. A system in accordance with claim 7 wherein:

at least one of the first security or the second security includes a quantity thereof; and

the barter order further including an effective time range.

9. A system in accordance with claim 7 wherein the at least one condition includes at least one variable selected from the group of variables including: the identity of one or more of the first and second securities, the delta between the buy and sell prices of the first and second securities, the relationship of the SIC codes of the first or second securities or any other securities, the market cap of the first or second securities, the average daily volume traded of the first or second securities and the debit value of the bid/ask spread of the first and second securities.

10. A system in accordance with claim 9 wherein each of the conditions further includes a mathematical operator and a value.

11. A system in accordance with claim 7 wherein each of the rules further includes at least one pricing tier comprising an offer price range within which a rule is operative and an offer size value up to which a rule is operative; and

if the rule is operative and if the at least one condition of the rule is satisfied, further comprising the steps of:

if the barter offer is a limit order, performing one of the steps of trading the first and second securities, and posting the barter offer for consideration for execution;

if the barter offer is a market order, trading the first and second securities; and

if a contra barter offer is accepted, trading the first and second securities.

12. A system in accordance with claim 7 wherein the step of automatically responding includes prompting the operator to provide a manual response.

13. A method for responding to a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter, the method comprising the steps of:

receiving a rule for automatically responding to the barter order;

comparing the barter order to the at least one condition comprising the rule; and

automatically responding to the barter order in accordance with the at least one condition of the rule.

14. A system for responding to a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter, the system comprising:

means for receiving a rule including at least one condition for automatically responding to the barter order;

means for comparing the barter order to the at least one condition comprising the rule; and

means for automatically responding to the barter order in accordance with the at least one condition of the rule.

15. A method operable on a computer for establishing rules to respond to a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter, the method comprising the steps of:

storing on said computer a plurality of variables and a plurality of operators;

receiving through a graphical user interface input from a user selecting from the plurality of variables and operators to form at least one condition; and

responsive to the input, selecting the at least one condition to form a rule for automatically responding to the barter order.

16. A method in accordance with claim 15 wherein:

at least one of the first security and the second security includes a quantity thereof; and

the barter order further including an effective time range.

17. A method in accordance with claim 15 wherein the input from the user includes selecting at least one variable from the plurality of variables, at least one operator from the plurality of operators and at least one constraint to form the at least one condition.

18. A method in accordance with claim 17 wherein the plurality of variables includes: the identity of one or more of the first and second securities, the delta between the buy and sell prices of the first and second securities, the relationship between the SIC codes of the first or second securities or any other securities, the market cap of the first or second securities, the average daily volume traded of the first or second securities and the debit value of the bid/ask spread of the first and second securities.

19. A method in accordance with claim 15 wherein the rule further includes at least one pricing tier comprising an offer price range within which a rule is operative and an offer size value up to which a rule is operative.

20. A system for establishing rules to respond to barter orders, comprising:

a processor;

a memory operatively connected to said processor and storing a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter;

the memory further storing a plurality of variables and a plurality of operators, the memory further storing instructions operable with the processor to cause the processor to perform the steps of:

receiving through a graphical user interface input from a user;

responsive to the input, selecting from the plurality of variables and operators to form at least one condition; and

responsive to the input, selecting the at least one condition to form a rule for automatically responding to the barter order.

21. A system in accordance with claim 20 wherein:

at least one of the first security and the second security includes a quantity thereof; and

the barter order further including an time date range.

22. A system in accordance with claim 20 wherein the selecting step includes selecting at least one variable from the plurality of variables, at least one operator from the plurality of operators and at least one constraint to form the at least one condition.

23. A system in accordance with claim 22 wherein the plurality of variables includes: the identity of one or more of the first and second securities, the delta between the buy and sell prices of the first and second securities, the relationship between the SIC codes of the first or second securities or any other securities, the market cap of the first or second securities, the average daily volume traded of the first or second securities and the debit value of the bid/ask spread of the first and second securities.

24. A system in accordance with claim 20 wherein the rule further includes at least one pricing tier comprising an offer price range within which a rule is operative and an offer size value up to which a rule is operative.

25. A method for establishing rules to respond to a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter, the method comprising the steps of:

storing a plurality of variables and a plurality of operators;

receiving input from a user;

responsive to the input, selecting from the plurality of variables and operators to form at least one condition; and

responsive to the input, selecting the at least one condition to form a rule for automatically responding to the barter order.

26. A system for establishing rules to respond to a barter order, the barter order including a first security to be sold in a barter and a second security to be purchased in the barter, comprising:

means for storing a plurality of variables and a plurality of operators;

means for receiving input from a user;

means, responsive to the input, for selecting from the plurality of variables and operators to form at least one condition; and

means, responsive to the input, for selecting the at least one condition to form a rule for automatically responding to the barter order.

27. A method operable on a computer for generating a list of barter order trade information, comprising the steps of:

maintaining a database of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security including a quantity of the first security sold in the barter and a second security including a quantity of the second security purchased in the barter;

receiving at least one selection parameter;

using the at least one selection parameter to identify selected barter order trades from the database of barter order trades; and

outputting at least one trade parameter for each of the selected barter order trades.

28. A method in accordance with claim 27 and further including the step of:

receiving a designated trade parameter; and

said outputting step including outputting the designated trade parameter.

29. A method in accordance with claim 27 wherein the step of outputting the at least one trade parameter includes displaying the at least one trade parameter in a real-time human-readable list.

30. A method in accordance with claim 27 wherein the at least one selection parameter is selected from the group comprising: all trades, trades including a symbol, trades including at least one symbol from a list of symbols, trades invoked by rules, and trades in a tier.

31. A method in accordance with claim 28 wherein the plurality of trade parameters further includes at least one trade parameter selected from the group comprising: a symbol, a share quantity, a dollar value, a trade price, a rule invoked, a price tier and a time stamp.

32. A system for generating a list of barter order trade information, comprising:

a processor;

a memory operatively connected to the processor and storing a database of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security including a quantity of the first security sold in the barter and a second security including a quantity of the second security purchased in the barter;

the processor operative with control instructions stored in said memory to perform the steps of

receiving at least one selection parameter;

using the at least one selection parameter to identify selected barter order trades from the database of barter order trades; and

outputting at least one trade parameter for each of the selected barter order trades.

33. A system in accordance with claim 32 and further including the step of:

receiving a designated trade parameter; and

said outputting step including outputting the designated trade parameter.

34. A system in accordance with claim 32 wherein the step of outputting the at least one trade parameter includes displaying the at least one trade parameter in a real-time human-readable list.

35. A system in accordance with claim 32 wherein the at least one selection parameter is selected from the group comprising: all trades, trades including a symbol, trades including at least one symbol from a list of symbols, trades invoked by rules, and trades in a tier.

36. A system in accordance with claim 33 wherein the plurality of trade parameters further includes at least one trade parameter selected from the group comprising: a symbol, a share quantity, a dollar value, a trade price, a rule invoked, a price tier and a time stamp.

37. A method in accordance with claim 32 and further including outputting an indicator that two trades were executed as a pair.

38. A method for generating a list of barter order trade information, comprising the steps of:

storing a plurality of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security including a quantity of the first security sold in the barter and a second security including a quantity of the second security purchased in the barter;

receiving at least one selection parameter;

using the at least one selection parameter to identify selected barter order trades from the database of barter order trades;

receiving at least one trade parameter; and

outputting at least the one trade parameter for each of the selected barter order trades.

39. A system for generating a list of barter order trade information, comprising:

means for maintaining a database of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security including a quantity of the first security sold in the barter and a second security including a quantity of the second security purchased in the barter;

means for receiving at least one selection parameter;

means for using the at least one selection parameter to identify selected barter order trades from the database of barter order trades;

means for receiving at least one trade parameter; and

means for outputting at least the one trade parameter for each of the selected barter order trades.

40. A method operable on a computer for generating a list of barter order trade information from a database of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security, a quantity of the first security sold in the trade, a second security, and a quantity of the second security purchased in the trade, the method comprising the steps of:

providing through a graphical user interface at least one selection parameter to identify selected barter order trades from the database of barter order trades; and

receiving at least one trade parameter for each of the selected barter order trades in a real-time, human-readable ticker format.

41. A method in accordance with claim 40 and further including the step of:

identifying a designated trade parameter; and

said receiving step including receiving the designated trade parameter.

42. A method in accordance with claim 41 wherein the plurality of trade parameters further includes at least one trade parameter selected from the group comprising: a symbol, a share quantity, a dollar value, a trade price, a rule invoked, a price tier and a time stamp.

43. A method in accordance with claim 40 wherein the at least one selection parameter is selected from the group comprising: all trades, trades including a symbol, trades including at least one symbol from a list of symbols, trades invoked by rules, and trades in a tier.

44. A method in accordance with claim 40 and further including an indicator that two trades were executed as a pair.

45. A system for generating a list of barter order trade information, comprising:

a processor;

a memory connected to the processor and storing a plurality of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security, a quantity of the first security sold in the trade, a second security, and a quantity of the second security purchased in the trade;

the processor operative with control instructions stored in the memory to perform the steps of

providing through a graphical user interface at least one selection parameter to identify selected barter order trades from the database of barter order trades; and

receiving at least one trade parameter for each of the selected barter order trades in a real-time, human-readable ticker format.

46. A system in accordance with claim 45 and further including the step of:

identifying a designated trade parameter; and

said receiving step including receiving the designated trade parameter.

47. A system in accordance with claim 46 wherein the plurality of trade parameters further includes at least one trade parameter selected from the group comprising: a

symbol, a share quantity, a dollar value, a trade price, a rule invoked, a price tier and a time stamp.

48. A system in accordance with claim 45 wherein the at least one selection parameter is selected from the group comprising: all trades, trades including a symbol, trades including at least one symbol from a list of symbols, trades invoked by rules, and trades in a tier.

49. A system in accordance with claim 45 and further including an indicator that two trades were executed as a pair.

50. A method for generating a list of barter order trade information from a database of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security, a quantity of the first security sold in the trade, a second security, and a quantity of the second security purchased in the trade, the method comprising the steps of:

providing at least one selection parameter to identify selected barter order trades from the database of barter order trades; and

receiving at least one trade parameter for each of the selected barter order trades.

51. A system for generating a list of barter order trade information, comprising:

means for storing a plurality of barter order trades, each of the barter order trades including a plurality of trade parameters, the plurality of trade parameters including a first security, a quantity of the first security sold in the trade, a second security, and a quantity of the second security purchased in the trade;

means for providing at least one selection parameter to identify selected barter order trades from the database of barter order trades; and

means for receiving at least one trade parameter for each of the selected barter order trades.

52. A method operable on a computer for generating reports, the method comprising the steps of:

receiving on the computer a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter;

receiving at least one rule for automatically responding to a barter order request;

processing the plurality of barter order requests in accordance with the at least one rule; and

generating a report relating to the plurality of barter order requests processed in accordance with the at least one rule.

53. A method in accordance with claim 52 wherein the processing step includes trading or not trading to fill each of the plurality of barter order requests in accordance with the at least one rule; and

the report is a profit and loss report indicating profits or losses occurring from the processing step.

54. A method in accordance with claim 52 wherein the barter order further including an effective time range.

55. A method in accordance with claim 52 wherein the report is sorted by at least one of the group comprising a: stock symbol, rule, rule and tier, and transaction total.

56. A method in accordance with claim 52 wherein the report includes executed barter order requests selected from the group comprising: all trades, trades including a specified symbol, trades including a symbol selected from a list of symbols, trades invoked by a rule and trades in a selected price/size tier.

57. A method in accordance with claim 52 wherein the report includes only trades within a specified time period.

58. A method in accordance with claim 52 wherein the report includes data selected from the group comprising: share inventory, price inventory, number of trades, total profits and losses, realized profits and losses, unrealized profits and losses, an identifier of the rule invoked and an identifier of the price/size tier for a trade.

59. A system for generating reports, comprising:

a processor;

a memory operatively connected to the processor, the memory storing a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter;

the processor operative with control instructions stored in the memory to perform the steps of

receiving at least one rule for automatically responding to a barter order request;

processing the plurality of barter order requests in accordance with the at least one rule; and

generating a report relating to the plurality of barter order requests processed in accordance with the at least one rule.

60. A system in accordance with claim 59 wherein the processing step includes trading or not trading to fill each of the plurality of barter order requests in accordance with the at least one rule; and

the report is a profit and loss report indicating profits or losses occurring from the processing step.

61. A system in accordance with claim 59 wherein the step of receiving at least one rule includes receiving the rule through a graphical user interface.

62. A system in accordance with claim 59 wherein the barter order request further includes an effective time range.

63. A system in accordance with claim 59 wherein the report is sorted by at least one of the group comprising a: stock symbol, rule, rule and tier, and transaction total.

64. A system in accordance with claim 59 wherein the report includes executed barter order requests selected from the group comprising: all trades, trades including a specified symbol, trades including a symbol selected from a list of symbols, trades invoked by a rule and trades in a selected price/size tier.

65. A system in accordance with claim 59 wherein the report includes only trades within a specified time period.

66. A system in accordance with claim 59 wherein the report includes data selected from the group comprising: share inventory, price inventory, number of trades, total profits and losses, realized profits and losses, unrealized

profits and losses, an identifier of the rule invoked and an identifier of the price/size tier for a trade.

67. A method for generating reports, the method comprising the steps of:

receiving a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter;

receiving at least one rule for automatically responding to a barter order request;

processing the plurality of barter order requests in accordance with the at least one rule; and

generating a profit and loss report relating to the plurality of barter order requests processed in accordance with the at least one rule.

68. A system for generating reports, comprising:

means for receiving a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter;

means for receiving at least one rule for automatically responding to a barter order request;

means for processing the plurality of barter order requests in accordance with the at least one rule; and

means for generating a profit and loss report relating to the plurality of barter order requests processed in accordance with the at least one rule.

69. A method operable on a computer for generating reports, the method comprising the steps of:

generating through a graphical user interface at least one rule for automatically responding to a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter; and

equesting through a graphical user interface a report relating to the plurality of barter order requests.

70. A method in accordance with claim 69 wherein each barter order request further including an effective time range.

71. A method in accordance with claim 69 wherein the report is a profit and loss report; and further including the step of

receiving the report in human-readable format.

72. A method in accordance with claim 71 wherein the report is sorted by at least one of the group comprising at least one: stock symbol, rule, rule and tier and transaction total.

73. A method in accordance with claim 71 wherein the report includes executed barter order requests selected from the group comprising: all trades, trades including a specified symbol, trades including a symbol selected from a list of symbols, trades invoked by a rule and trades in a selected price/size tier.

74. A method in accordance with claim 71 wherein the report includes only trades within a specified time period.

75. A method in accordance with claim 71 wherein the report includes data selected from the group comprising: share inventory, price inventory, number of trades, total profits and losses, realized profits and losses, unrealized profits and losses, an identifier of the rule invoked and an identifier of the price/size tier for a trade.

76. A system for generating reports, comprising:

a processor;

a memory connected to the processor and storing a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter;

said processor operative with instructions in said memory to perform the steps of

generating through a graphical user interface at least one rule for automatically responding to the plurality of barter order requests; and

requesting a report relating to the plurality of barter order requests.

77. A system in accordance with claim 76 wherein

each barter order further includes an effective time range.

78. A system in accordance with claim 76 wherein the report is a profit and loss report; and further including the step of

receiving the report in human-readable format.

79. A system in accordance with claim 78 wherein the report is sorted by at least one of the group comprising a: stock symbol, rule, rule and tier and transaction total.

80. A system in accordance with claim 78 wherein the report includes executed barter order requests selected from the group comprising: all trades, trades including a specified symbol, trades including a symbol selected from a list of symbols, trades invoked by a rule and trades in a selected price/size tier.

81. A system in accordance with claim 78 wherein the report includes only trades within a specified time period.

82. A system in accordance with claim 78 wherein the report includes data selected from the group comprising: share inventory, price inventory, number of trades, total profits and losses, realized profits and losses, unrealized profits and losses, an identifier of the rule invoked and an identifier of the price/size tier for a trade.

83. A method for generating reports, comprising the steps of:

generating at least one rule for automatically responding to a plurality of barter order requests, each barter order request including a first security including a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter; and

requesting a profit and loss report relating to the plurality of barter order requests.

84. A system for generating reports, comprising:

means for generating at least one rule for automatically responding to a plurality of barter order requests, each barter order request including a first security including

a quantity thereof to be sold in the barter and a second security including a quantity thereof to be purchased in the barter; and

means for requesting a profit and loss report relating to the plurality of barter order requests.

85. A method operable on a computer for responding to a submitted barter order request, the method comprising the steps of:

receiving on the computer the submitted barter order request including a first security to be sold in the barter and a second security to be purchased in the barter,

identifying on the computer at least two contra barter orders together sufficient to satisfy at least a portion of the submitted barter order request; and

executing trades specified by the submitted barter order request and each of the at least two contra barter orders;

whereby to satisfy at least a portion of the submitted and contra barter order requests.

86. A method in accordance with claim 85 wherein:

each first security in the submitted and contra barter order requests includes a quantity thereof; and

each submitted and contra barter order request further including an effective time range.

87. A method in accordance with claim 86 wherein the at least two contra barter order requests include in combination the first and second securities in quantities and within a date range sufficient to satisfy the submitted barter order request; and

the step of executing trades satisfies the submitted barter order request.

88. A system for responding to a submitted barter order request, comprising:

a processor;

a memory connected to the processor and storing a plurality of contra barter order requests;

the processor operative with control instructions in the memory to perform the steps of

receiving the submitted barter order request including a first security to be sold in the barter and a second security to be purchased in the barter,

identifying from the plurality of barter order requests at least two contra barter order requests together sufficient to satisfy at least a portion of the submitted barter order request; and

executing trades specified by the submitted barter order request and each of the at least two contra barter order requests;

whereby to satisfy at least a portion of the submitted and contra barter order requests.

89. A system in accordance with claim 88 wherein:

each first security in the submitted and contra barter order requests includes a quantity thereof; and

each submitted and contra barter order request further including an effective time range.

90. A system in accordance with claim 89 wherein the at least two contra barter order requests include in combination the first and second securities in quantities and within a date range sufficient to satisfy the submitted barter order request; and

the step of executing trades satisfies the submitted barter order request.

91. A method for responding to a submitted barter order request, the method comprising the steps of:

receiving the submitted barter order request including a first security to be sold in the barter and a second security to be purchased in the barter,

identifying at least two contra barter order requests together sufficient to satisfy at least a portion of the submitted barter order request; and

executing trades specified by the submitted barter order request and each of the at least two contra barter order requests;

whereby to satisfy at least a portion of the submitted and contra barter order requests.

92. A system for responding to a submitted barter order request, comprising:

means for receiving the submitted barter order request including a first security to be sold in the barter and a second security to be purchased in the barter,

means for identifying at least two contra barter order requests together sufficient to satisfy at least a portion of the submitted barter order request; and

means for executing trades specified by the submitted barter order request and each of the at least two contra barter order requests;

whereby to satisfy at least a portion of the submitted and contra barter order requests.

93. A method operable on a computer for responding to a submitted barter order request, the method comprising the steps of:

receiving on the computer the submitted barter order request including a first security to be sold in the barter and a second security to be purchased in the barter,

comparing the submitted barter order request to a plurality of contra barter order requests;

if the submitted barter order request cannot be satisfied by one or more of the plurality of contra barter order requests, splitting the submitted barter order request into a buy order and a sell order; and

executing the buy order and sell order on an open market exchange.

94. A method in accordance with claim 93 wherein:

at least one of the first security and the second security includes a quantity thereof; and

the barter order further including an effective time range.

95. A method in accordance with claim 93 wherein the submitted barter order includes a limit price for at least one of the first and second securities; and

at least one of the buy and sell orders is a limit order.

96. A method in accordance with claim 93 wherein at least one of the buy and sell orders is a market order.

97. A system for responding to a submitted barter order request, comprising:

a processor;

a memory connected to the processor and storing a plurality of contra barter order requests, each of the contra barter order requests including a first security to be sold in the barter and a second security to be purchased in the barter;

the processor operative with control instructions stored in the memory to perform the steps of

receiving the submitted barter order request,

comparing the submitted barter order request to the plurality of contra barter order requests;

if the submitted barter order request cannot be satisfied by one or more of the plurality of contra barter order requests, then splitting the submitted barter order request into a buy order and a sell order; and

executing the buy order and sell order on an open market exchange.

98. A system in accordance with claim 97 wherein:

at least one of the first security and the second security includes a quantity thereof; and

the barter order further including an effective time range.

99. A system in accordance with claim 97 wherein the submitted barter order includes a limit price for at least one of the first and second securities; and

at least one of the buy and sell orders comprising a limit order.

100. A system in accordance with claim 97 wherein at least one of the buy and sell orders is a market order.

101. A method for responding to a submitted barter order request, the method comprising the steps of:

receiving the submitted barter order request including a first security to be sold in the barter and a second security to be purchased in the barter,

comparing the submitted barter order request to a plurality of contra barter order requests;

if the submitted barter order request cannot be satisfied by one or more of the plurality of contra barter order requests, then splitting the submitted barter order request into a buy order and a sell order; and

executing the buy order and sell order on an open market exchange.

102. A system for responding to a submitted barter order request, comprising:

means for receiving the submitted barter order request including a first security to be sold in the barter and a second security including a quantity thereof to be purchased in the barter,

means for comparing the submitted barter order request to a plurality of contra barter order requests;

means, if the submitted barter order request cannot be satisfied by one or more of the plurality of contra barter order requests, for splitting the submitted barter order request into a buy order and a sell order; and

means for executing the buy order and sell order on an open market exchange.

103. A method operable on a computer for creating a barter order request, the barter order request including at least first and second securities, the first security including a quantity thereof to be sold in a barter, the second security including a quantity thereof to be purchased in the barter, and the barter order request further including a date in which the barter is to occur, the method comprising the steps of:

establishing on the computer a condition for identifying the at least first and second securities; and

establishing on the computer a formula for grouping the at least first and second securities into a basket of securities.

104. A method in accordance with claim 103 wherein the condition includes at least one variable, at least one arithmetic operator, a comparison operator, and a constant.

105. A method in accordance with claim 103 wherein the formula includes filters.

106. A method in accordance with claim 103 wherein the condition is based on at least one of the group including market characteristics and risk characteristics.

107. A system operable on a computer for establishing a basket of securities from which to create a barter order request, the barter order request including a first security including a quantity thereof to be sold in a barter, a second security including a quantity thereof to be purchased in the barter, and a date in which the barter is to occur, the system comprising:

means for providing a plurality of selectable conditions, each condition operative to identify a plurality of securities; and

means for creating a formula to define a basket of securities from the plurality of securities, the basket including at least the first and second securities.

108. A method in accordance with claim 107 wherein each of the plurality of conditions includes at least one variable, at least one arithmetic operator and a comparison operator.

109. A method in accordance with claim 107 wherein the means for creating a formula includes means for establishing filters.

110. A system in accordance with claim 107 further comprises means for including in the barter order request a condition relating to the value of the barter.

111. A method operable on a computer for creating a contingent barter order request, the method comprising the steps of:

creating a barter order request including a first security including a quantity thereof to be sold in a barter, a second security including a quantity thereof to be purchased in the barter, a date in which the barter is to occur, and a first condition relating to the value of the barter under which condition the barter is to occur on the date;

creating a contingency including a second condition;

monitoring the second condition; and

automatically submitting the barter order request for processing upon the occurrence of the second condition.

112. A method in accordance with claim 111 wherein the step of automatically submitting the barter order request includes transmitting the barter order request to a third party for execution.

113. A system for creating a contingent barter order request, the barter order request including a first security including a quantity thereof to be sold in a barter, a second security including a quantity thereof to be purchased in the barter, a date in which the barter is to occur, and a first condition relating to the value of the barter under which condition the barter is to occur on the date; the system comprising:

a processor;

a memory connected to the processor and containing instructions operable with the processor to cause the processor to perform the steps of

creating using input data from a user the barter order request;

defining using input data from the user a contingency including a second condition;

monitoring the second condition; and

automatically submitting the barter order request for processing upon the occurrence of the second condition.

114. A system in accordance with claim 113 wherein the step of automatically submitting the barter order request includes transmitting the barter order to a third party for execution.

115. A method in accordance with claim 113 wherein the step of automatically submitting the barter order request includes transmitting the barter order to a third party for a quote response.

116. A method operable on a computer for trading a barter order including a first security to be sold and a second security to be purchased, the method comprising the steps of:

receiving on the computer the barter order, the barter order comprising one of the group including a limit order, a market order and a trade from order book;

if the barter order is a limit order, submitting the limit order for execution;

if the barter order is a market order, submitting the market order for execution; and

if the barter order is a trade from order book, providing contra barter offers for consideration.

117. A method in accordance with claim 116 wherein the limit order is expressed as a total dollar limit.

118. A method in accordance with claim 117 where the total dollar limit is automatically calculated on the computer.

119. A method in accordance with claim 116 wherein individual prices are established for at least one of the first and second securities.

120. A method in accordance with claim 116 wherein the step of receiving on the computer a barter order is performed using a graphical user interface.

121. A method in accordance with claim 116 wherein, if the barter order is a trade from order, further including the step of completing a trade without specifying a limit price or a limit or market order status.

122. A method in accordance with claim 116 wherein, if the barter order is a trade from order book, further comprising the step of selecting at least one contra offer for trading.

123. A method in accordance with claim 122 wherein the step of selecting at least one contra offer includes simultaneously selecting a plurality of contra offers.

124. A method in accordance with claim 123 and further including the step of automatically receiving the cumulative value of the difference between National and Internal offers.

125. A system for trading a barter order including a first security to be sold and a second security to be purchased, comprising:

a processor;

a memory connected to the processor and storing the barter order, the barter order comprising one of the group including a limit order, a market order and a trade from order book, the memory further containing instructions for controlling the operation of the processor to perform the steps of

if the barter order is a limit order, submitting the limit order for execution;

if the barter order is a market order, submitting the market order for execution; and

if the barter order is a trade from order book, providing contra barter offers for consideration.

126. A system in accordance with claim 125 wherein the limit order is expressed as a total dollar limit.

127. A system in accordance with claim 126 where the total dollar limit is automatically calculated on the computer.

128. A system in accordance with claim 125 wherein individual prices are established for at least one of the first and second securities.

129. A system in accordance with claim 125 wherein the barter order is received into the system using a graphical user interface.

130. A system in accordance with claim 125 wherein, if the barter order is a trade from order, further including the step of completing a trade without specifying a limit price or a limit or market order status.

131. A system in accordance with claim 125 wherein, if the order is a trade from order book, then further comprising the step of selecting at least one contra offer for trading.

132. A system in accordance with claim 131 wherein the step of selecting at least one contra offer includes simultaneously selecting a plurality of contra offers.

133. A method in accordance with claim 132 and further including the step of automatically receiving the cumulative value of the difference between National and Internal offers.

134. A method for trading a barter order including a first security to be sold and a second security to be purchased, the method comprising the steps of:

receiving the barter order, the barter order comprising one of the group including a limit order, a market order and a trade from order book;

if the barter order is a limit order, submitting the limit order for execution;

if the barter order is a market order, submitting the market order for execution; and

if the barter order is a trade from order book, providing contra barter offers for consideration.

135. A system for trading a barter order including a first security to be sold and a second security to be purchased, the system comprising:

means for receiving on the computer the barter order, the barter order comprising one of the group including a limit order, a market order and a trade from order book;

means for submitting, if the barter order is a limit order, the limit order for execution;

means for submitting, if the barter order is a market order, the market order for execution; and

means for providing, if the barter order is a trade from order book, contra barter offers for consideration.

* * * * *

TAB C



US006418419B1

(12) **United States Patent**
Nieboer et al.

(10) **Patent No.:** **US 6,418,419 B1**
(45) **Date of Patent:** **Jul. 9, 2002**

(54) **AUTOMATED SYSTEM FOR CONDITIONAL ORDER TRANSACTIONS IN SECURITIES OR OTHER ITEMS IN COMMERCE**

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(73) Assignee: **5th Market, Inc.**, Nashville, TN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/359,686**

(22) Filed: **Jul. 23, 1999**

(51) **Int. Cl.⁷** **G06F 17/60**

(52) **U.S. Cl.** **705/37**

(58) **Field of Search** **705/37**

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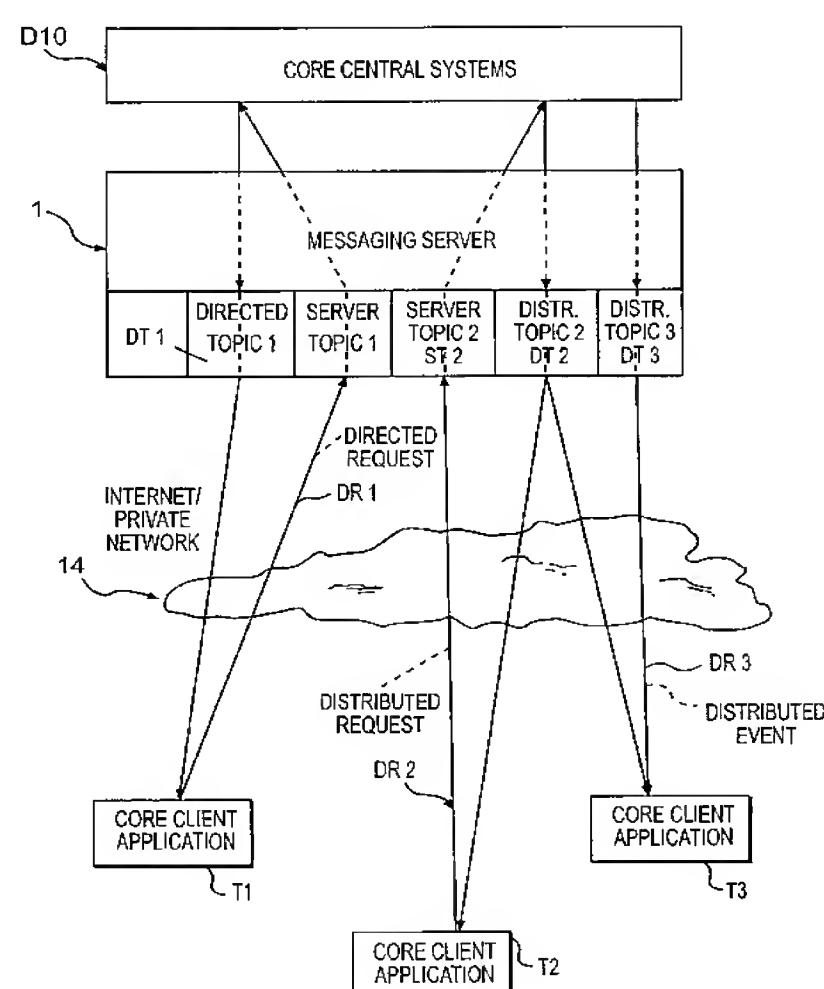
Primary Examiner—Wynn Coggins

Assistant Examiner—Forest Thompson, Jr.

(57) **ABSTRACT**

An apparatus and method of automatically and anonymously buying and selling positions in fungible properties between subscribers. The specific embodiment described in the disclosure relates to the buying and selling of securities or contracts where the offer to purchase or sell the property may be conditioned upon factors such as the ability to purchase or sell other property or the actual purchase or sale of other property. Specifically, the system described includes methods by which the system will sort and display the information available on each order, methods by which the system will match buy and sell order and attempt to use other markets to effect the execution of transactions without violating conditions set by the subscriber, methods by which the apparatus will execute transaction and report prices to third parties such that the user is satisfied and short sales are reported as prescribed by the rules and regulations of the appropriate regulatory body governing each subscriber in the associated transaction. A communication system is described which allows subscribers to communicate anonymously for the purpose of effecting transactions in such property under such conditions.

43 Claims, 10 Drawing Sheets



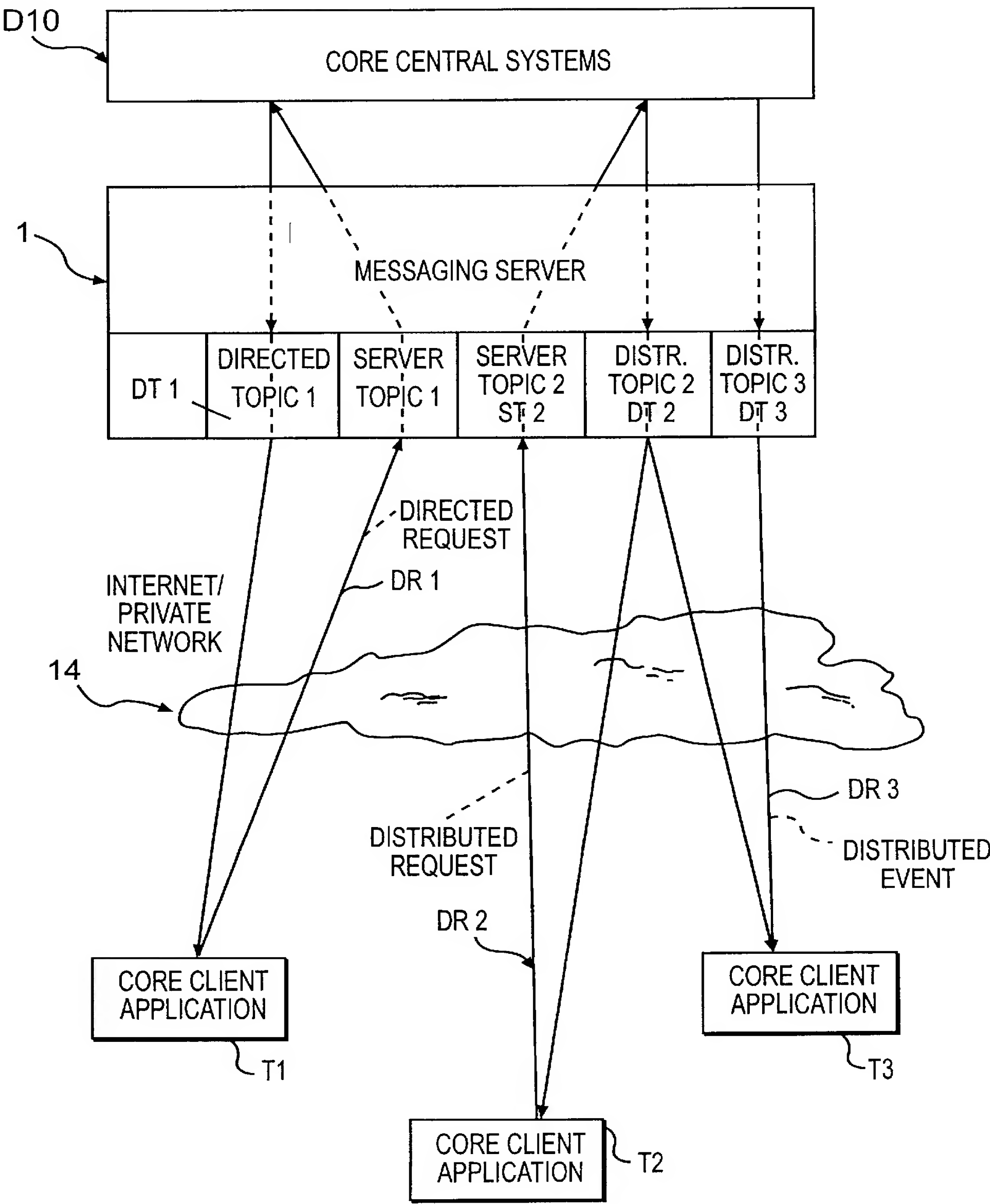


FIG. 1

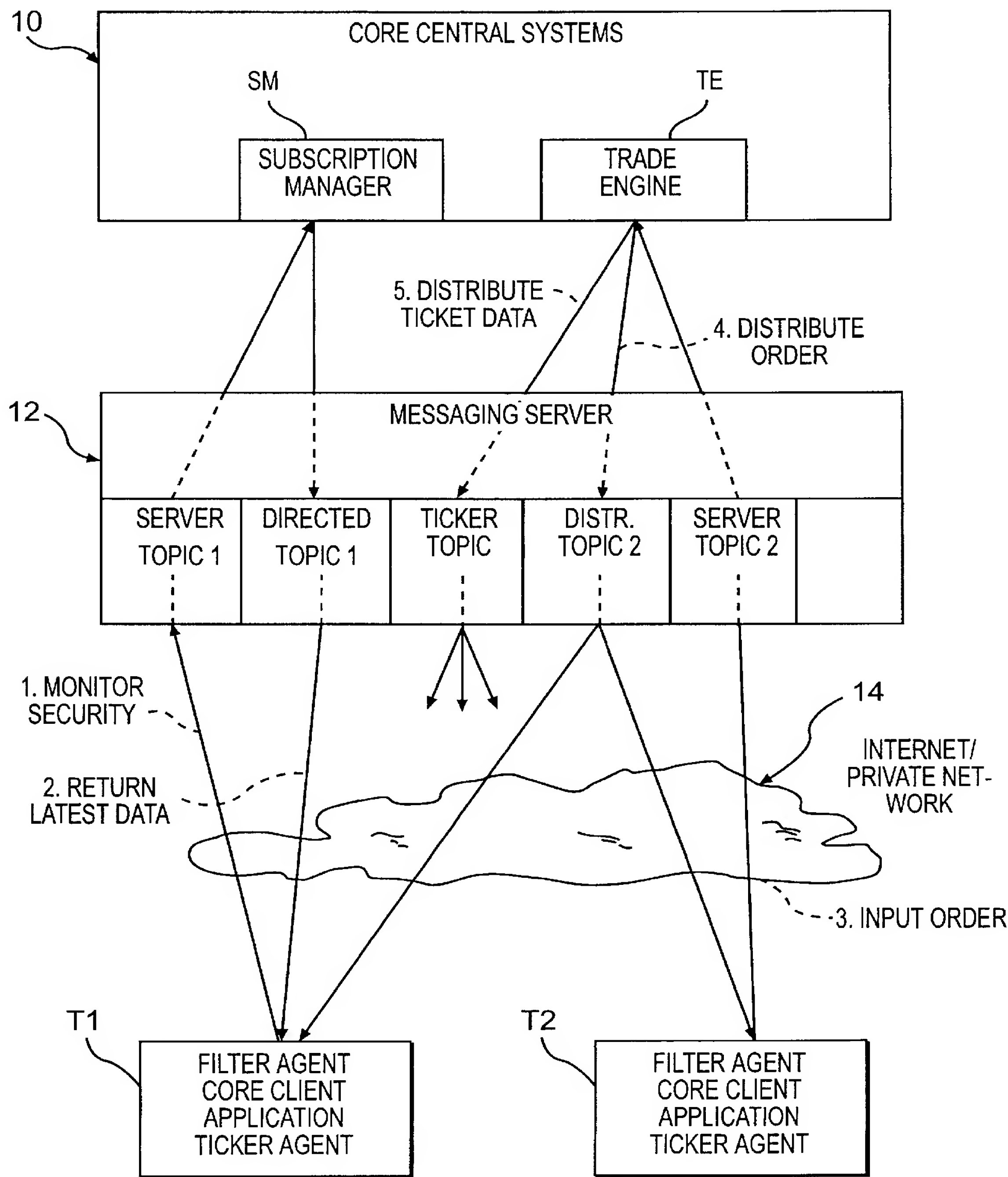


FIG. 2

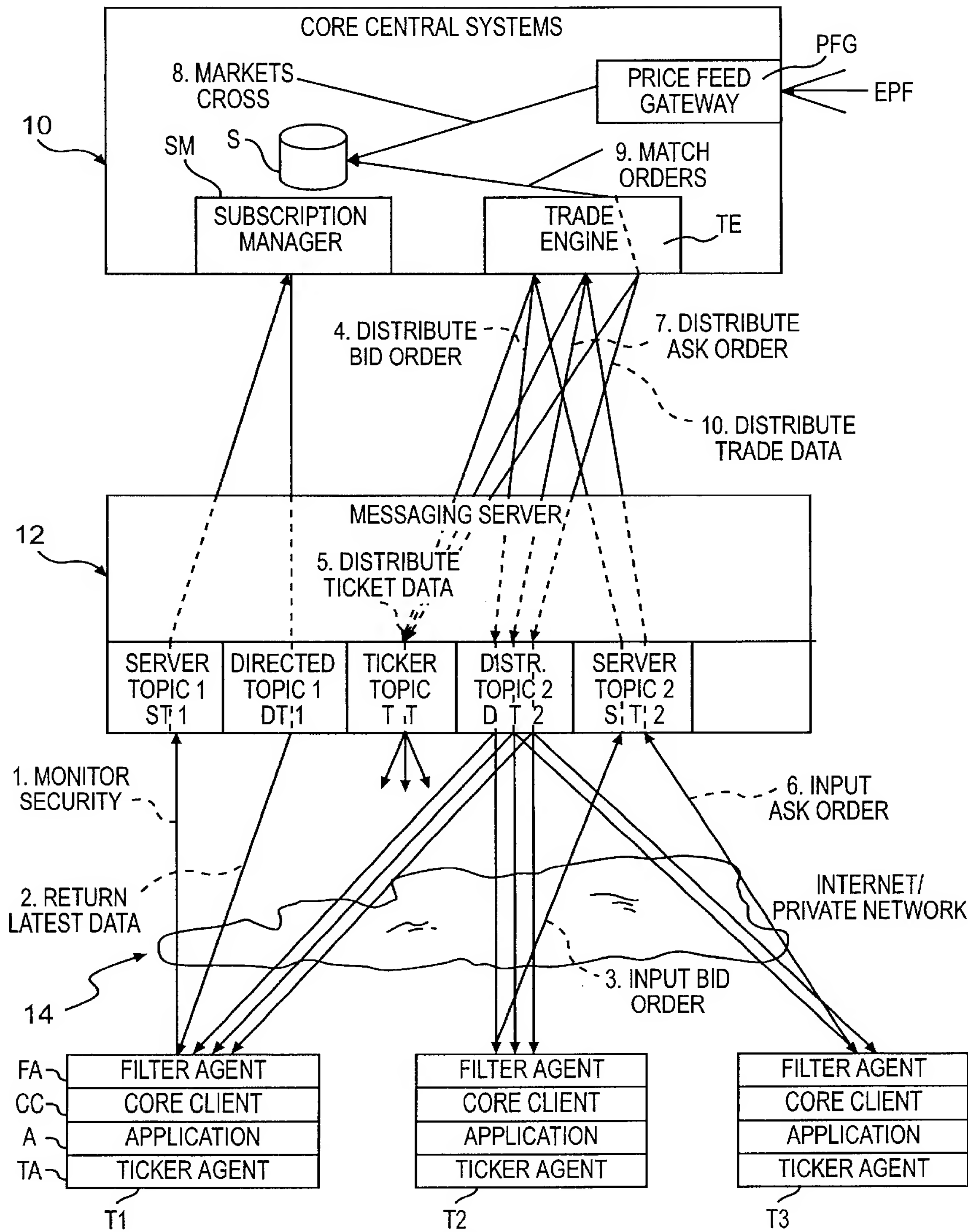


FIG. 3

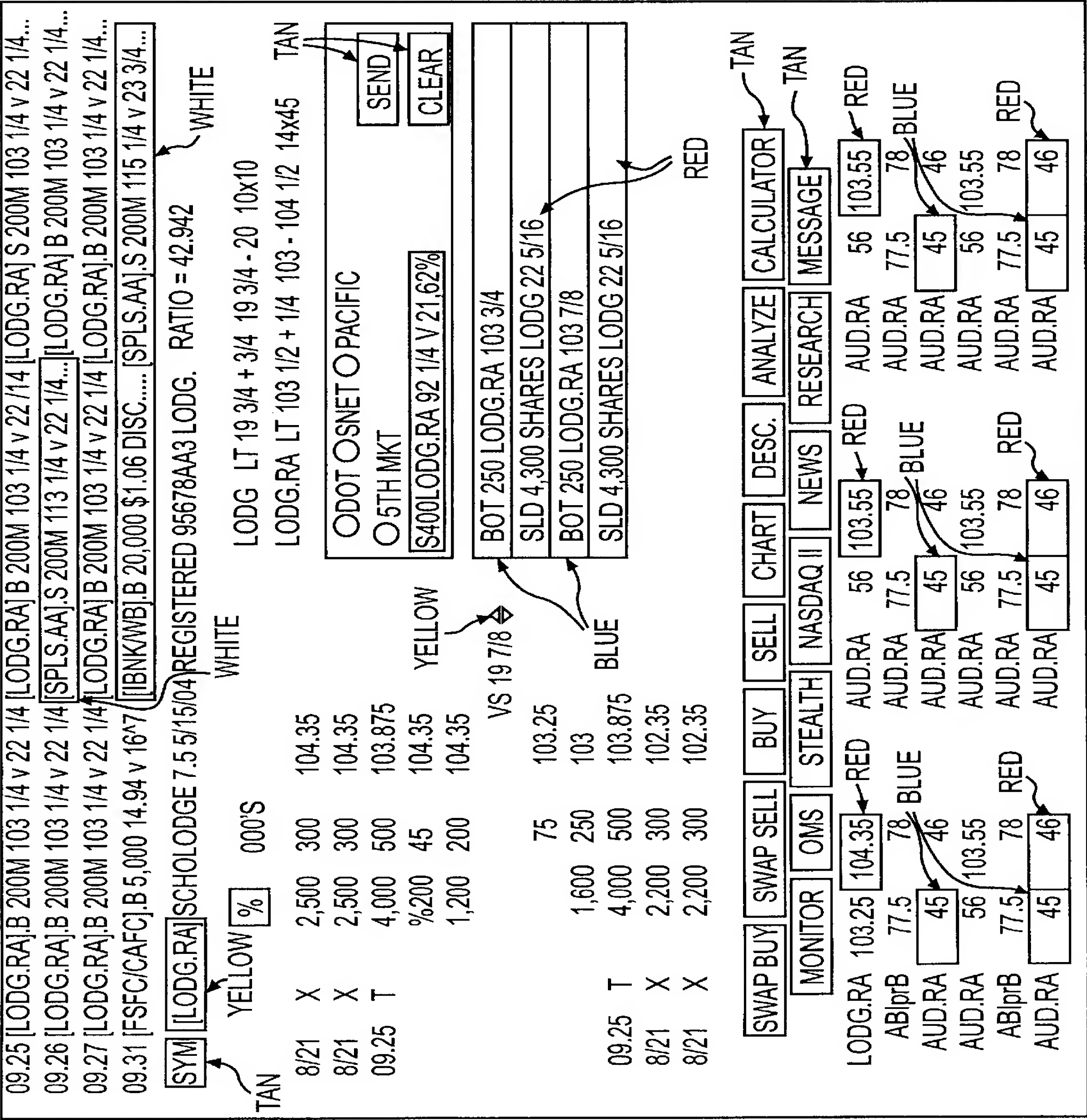


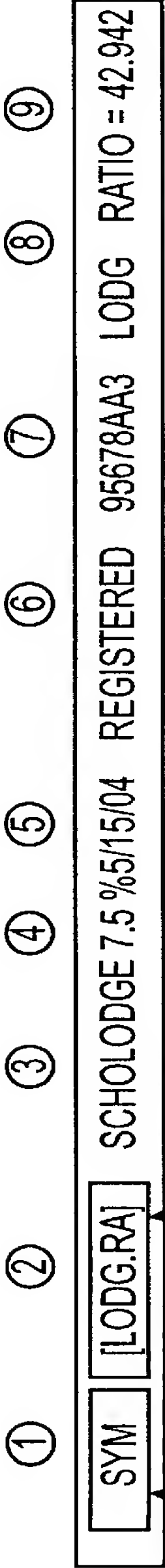
FIG. 4

09.25	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4...	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4...	[	LODG.RA]	.	S	200M	103	1/4	v	22	1/4
09.26	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4...	[	SPLS.AA]	.	S	200M	113	1/4	v	22	1/4...	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4
09.27	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4...	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4...	[	LODG.RA]	.	B	200M	103	1/4	v	22	1/4
09.31	[	FSFC/CAFC]	.	B	5,000	14.95	v	16	7...	[	JBNK/WB]	.	B	20,000	\$1.06	DISC.....	[	SPLS.AA]	.	S	200M	115	1/4	v	23	3/4				

WHITE

MARKET PROPRIETARY TICKER

FIG. 5



TAN

YELLOW

FIG. 6

LODG	LT	193/4 + 3/4	19	3/4-20	10x10
LODG.RA	LT	103	1/2 + 1/4	103-104	1/2 14x45

FIG. 7

8/21	X	2,500	300	104.35	
8/21	X	2,500	300	104.35	
09.25	T	4,000	500	103.875	
		%200	45	104.35	YELLOW
		1,200	200	104.35	VS 19 7/8
			75	103.25	
		1,600	250	103	
09.25	T	4,000	500	103.875	
8/21	X	2,200	300	102.35	
8/21	X	2,200	300	102.35	

FIG. 8

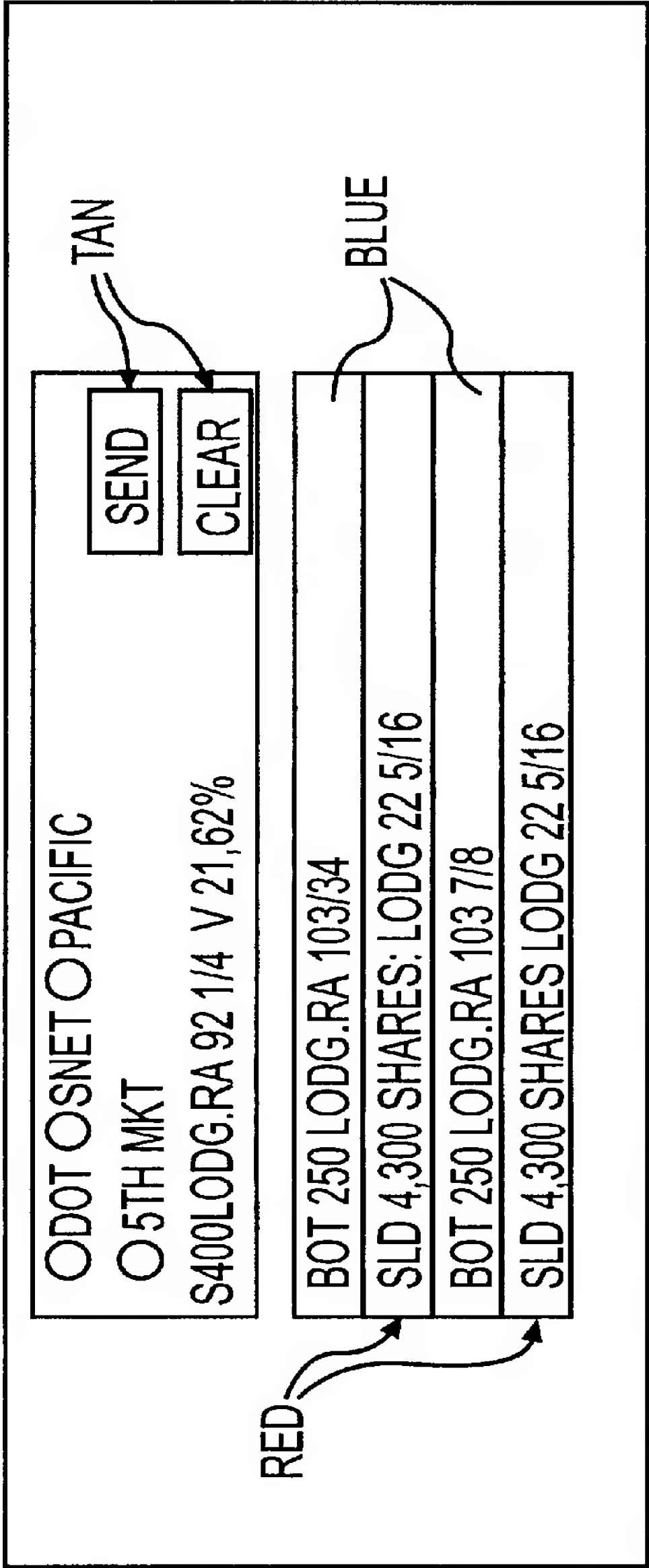


FIG. 9

QUICK ORDER ENTRY / TRADE REPORTS

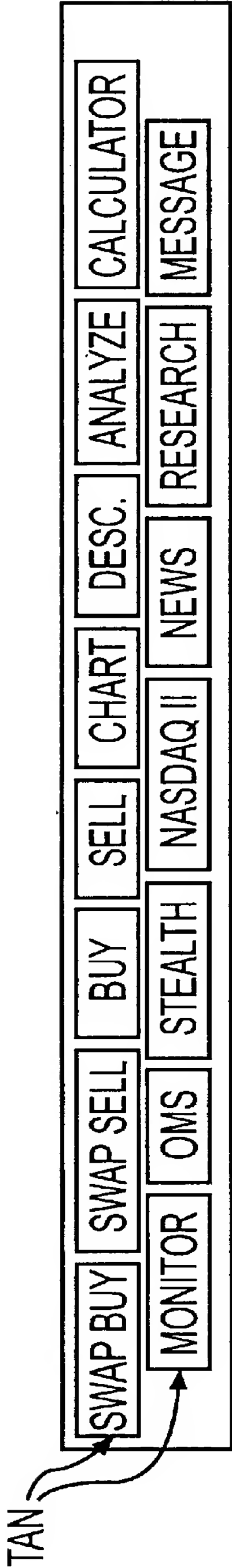


FIG. 10

SOFT KEYS FOR WILD CARD AREA DISPLAY

THE ORDER BOOK AT 3:22 MAY LOOK LIKE:

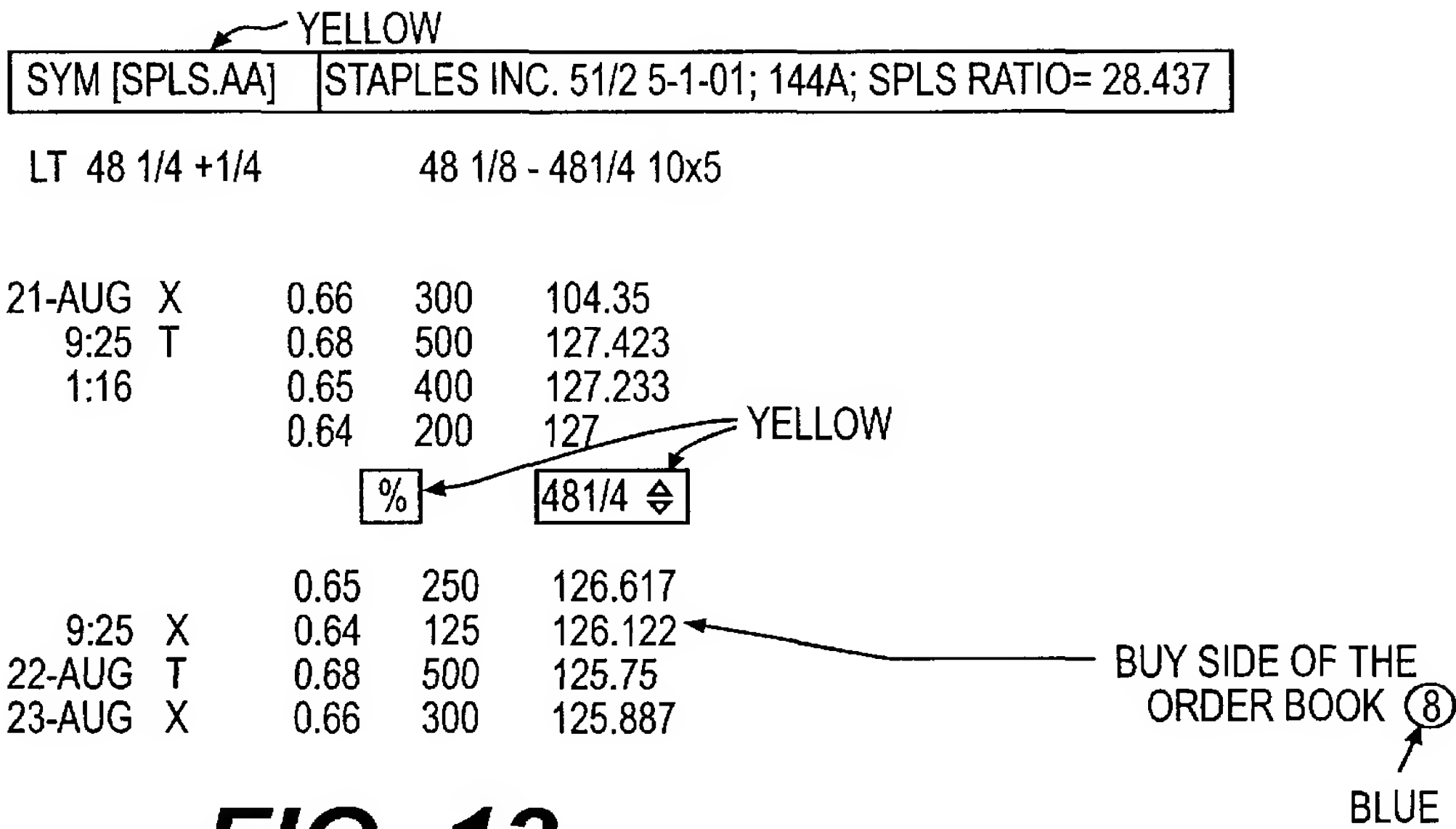


FIG. 13
ORDER BOOK SAMPLE

IF THE USER HAD CHOSEN THE "SPREAD" OPTION, THE MARKET MONITOR AREA WOULD LOOK LIKE THIS:

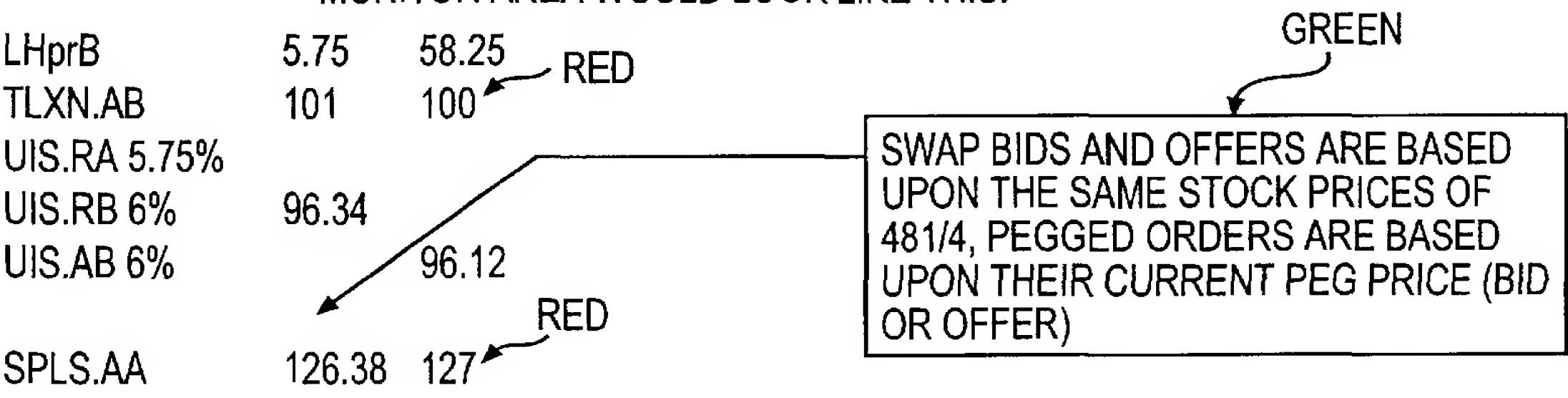
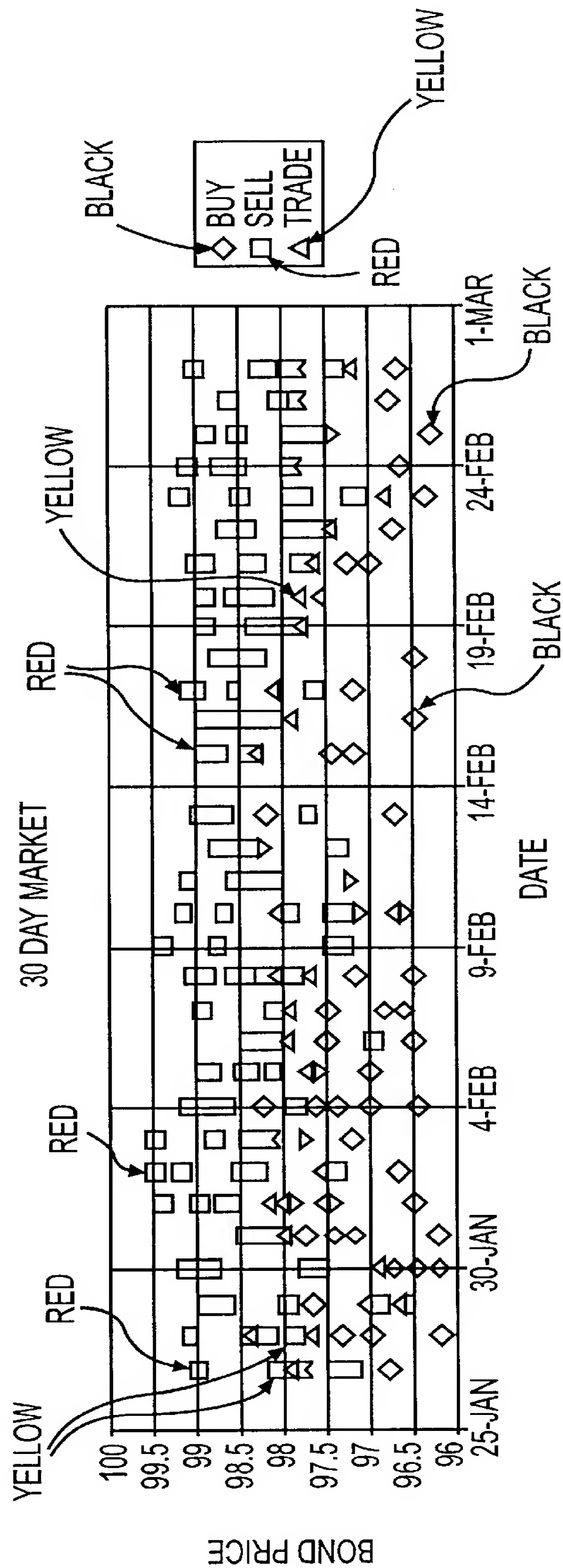


FIG. 14 MARKET MONITOR SPREAD OPTION



CONDITIONAL ORDER CHARTS

FIG. 15

TAN

DCOUPON:	7.50%	ISSUER	CONVERSION FEATURES
DFREQ.	2	SHOLODGE, INC	CONVERSION RATIO 42.9
DCOUP TYPE	FIXED	217 WEST MAIN STREET	CONVERTIBLE UNTIL 5/1/2004
ACCRUAL:	30/60	GALLITIN, TN 37066	CONVERTIBLE INTO: LODG
PAR AMOUNT	1000	615-452-7332	
REGISTRATION	REGISTERED	TEMP. ISSUED WITH SHORT	CUSIP: 825034AA9
ISSUED:	54000000	1ST COUPON	ISIN:
OUTSTANDING	54000000		SP: B+ MOODY'S B2
LEAD MGR:	J.C. BRADFORD		
PERM. 18% PERM			

FIG. 16

1

AUTOMATED SYSTEM FOR CONDITIONAL ORDER TRANSACTIONS IN SECURITIES OR OTHER ITEMS IN COMMERCE

BACKGROUND OF THE INVENTION

The present invention relates to a system and method for the conditional trading of arbitrary items over one or more electronic networks. More specifically, the present invention relates, in a preferred embodiment, to a method and system for contingency trading of securities such as convertible bond "swaps", risk arbitrage, and pairs in both listed and over-the-counter markets.

There are five types of industry participants generally involved in convertible securities: 1) mutual funds which make decisions to purchase and sell convertibles based upon a) fundamental research relating to the company or the industry, and b) asset allocation and portfolio adjustment decisions; 2) hedge funds which are driven to purchase and sell securities based upon the relative value of the convertible to its underlying stock and other convertibles; 3) large multinational broker-dealers which purchase and sell securities based upon customers' (mutual funds and hedge funds) purchase and sale interest as well as relative value; 4) regional broker-dealers which are driven to purchase and sell securities based upon customers' interest and retail distribution power; and 5) broker's brokers which expose indications of interest between dealers and some hedge funds, who act only as agent and do not position securities. There is no computer network actively linking these participants in a transaction-oriented format. Virtually every transaction is through verbal private negotiations. Almost every bid, offer or trade is made verbally and is transmitted only to those persons involved in the trade. The present invention will create an auction market instead of a negotiated market and will display prices to all participants and save the information for later use. The present invention is an anonymous system; the current verbal network is neither efficient nor anonymous.

Over the past 15 years electronic order display networks have proliferated in the equity markets. From Nasdaq's ACES system to the very successful Instinet system, the industry has been transformed from a marketplace in which negotiations take place over the phone between two parties to one in which negotiations take place over a computer network among several parties. This phenomena has created a quasi-negotiated/quasi-auction market in both Nasdaq securities which have, until recently, been primarily negotiation-based and listed security which have been primarily auction-based. In effect, these networks have provided users with the ability to choose the method of negotiation most befitting their current situation and objectives. Convertible securities markets have not been exploited by these systems to the extent the equity market has, in part because of the complex nature of "typical" trading practice. Specifically, a large portion of convertible securities presently held in positions are hedged in one form or another and well over 60% of the trading volume is effected with a "contingent" transaction (a transaction in which another security is traded at about the same time). The present invention has developed the framework for a system that satisfies a need in the art, which will exploit this market, and other contingency based markets like risk arbitrage, ADR's, pairs, and eventually, options.

2

SUMMARY OF THE INVENTION

Accordingly, a primary object of the present invention is to efficiently transact conditional buy and sell orders for items of commerce by multiple traders in real-time.

It is further an object of the present invention to match or negotiate conditional buy and sell orders of the items with reduced transaction costs to the traders.

It is another object of the present invention to rapidly process conditional buy and sell orders of securities such as, convertible bond "swaps", risk arbitrage, and pairs in both listed and over-the-counter markets.

It is still another object of the present invention to provide matching or comparing in accordance with constraints and conditions, algorithmic buy/sell orders with non-algorithmic sell/buy orders through the use of data from, and interaction with, multiple external exchanges.

It is yet another object of the present invention to provide traders improved workstations for entering, viewing, monitoring and changing or deleting conditional buy/sell orders, which reflects changes in the favorability of the orders.

It is still a further object of the present invention to give public access to the persons skilled in security transactions for trading of conditional securities in real-time without the assistance of traditional broker networks.

The objects of the present invention are fulfilled by providing a conditional order transaction network that matches or compares buy and sell orders for a plurality of items based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, the conditional order transaction network comprising:

- a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent variable, the algorithm representing a buy or sell order; and
- at least one computer coupled to each of the trader terminals over a communication network and receiving as inputs,
 - a) each algorithm with its corresponding constraints and
 - b) at least one depicting prices of various items and contracts from external multiple data sources which may be used as variables of the algorithm or an input to a constraint variable, the controller computer comprising,
 - means for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with non-algorithmic sell/buy orders through the use of the external multiple data sources.

In a preferred embodiment, the items are security instruments such as stocks, bonds, options, futures, forward contracts or swap contracts. However, in the broader sense the system and method of the present invention is a conditional trading network for various commodities or items in commerce, including but not limited to cars, airline tickets, energy credits, petroleum products or gaming contracts. The items may be bought or sold outright or may be exchanged for a combination of other items and cash. The number of items and the amount of cash that exchanges hands is determined programmatically in accordance with predefined constraints specified when orders are made and as a product

of data originating outside of the system, i.e., external data sources, and provided to it by external agents.

The invention is directed to an automated system for providing financial information, including trading information regarding securities, and conditional order transactional services in real-time to all users. Both are provided via a global computer network. This has the advantages of increasing the efficiencies in the marketplace, substantially reducing transaction costs, and providing equal opportunities to all users.

Subscribers/traders to the network are provided with ongoing financial information. A subscriber can choose certain securities for which he is to be apprised of any relevant activity.

A subscriber can submit a conditional offer to buy/sell. This conditional buy/sell offer is immediately conveyed to all subscribers i.e., there is instant exposure to the market. Other subscribers can accept or counter the offer, with the acceptance or the counter offer being communicated immediately to the original offeror and/or the other subscribers to the system.

The system facilitates contingent or conditional trading. It provides real-time market data and communication links between subscribers. It makes possible the monitoring of securities of various types, the receiving of market data, the entering and executing of orders in an order book, the negotiating of trades against other "orders" in the book and the routing of the orders to various exchanges such as the New York Stock Exchange (NYSE), Nasdaq, American Stock Exchange (AMEX) and the Pacific Stock Exchange (PSE) through such access providers as DOT, ITS or Select-Net. In addition, subscribers to the system may automatically received confirmations of trade executions, access static data from the financial information database and analyze securities for potential trades using such data and real-time prices.

The system is preferably anonymous. However, a subscriber can monitor the total number of subscribers currently viewing a particular security.

Each subscriber can view the order book in different ways or input orders to the system using screen or form views which are intuitively different but logically identical, i.e., which present the same substance in different formats. For instance, instead of formatting an offer to purchase an option at a specific price as originally input by a subscriber, another subscriber can customize his network interface to automatically convert the format and display the offer in the form of a volatility offering.

As another example, a first subscriber can make a conditional offer in the format of an offering to purchase security A and sell security B at set prices. A second subscriber may customize his network interface to automatically translate all such conditional offers into a discount amount, i.e., $A \cdot \text{ratio} - B - \text{discount}$. The second subscriber might counter offer in his preferred discount format, but the first subscriber can customize his network interface to automatically translate all such conditional offers into his preferred format of "sell A versus buy B at different level."

The objects of the present invention are further fulfilled by providing a trader workstation for trading and negotiating prospective trades for instruments referenced in buy and sell orders, based upon conditions set forth in the orders including the price represented by an algorithm with constraints thereon, comprising;

a display device for displaying the selected parameters of buy and sell orders in a prioritized sequence in a descending order of favorability across a display field,

with the most favorable order at one distal end and the least favorable at the other distal end;

an input device for entering outgoing orders to be traded or negotiated into the trader workstation; and

a computer for receiving the outgoing orders and incoming order information from traders' terminals, and for controlling the display device, said computer including, a comparator for comparing all incoming orders relative to outgoing orders, and

a sorter that resequences the orders in real-time in the display field as each order is received to reflect changes in the relative favorability of the orders.

The system monitors existing bids/offers for changes in the secondary securities that would cause bids/offers to intersect. The system can automatically execute (i.e., place orders on the secondary security and report the transaction in the primary security) bids/offers when they intersect. To place an order for the secondary security, the system can automatically contact the appropriate exchange (e.g., NYSE) to place the bid/offer for the secondary security.

Further scope of the applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiment of the invention, are given by way of illustration only, since various changes and modification within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description given hereinbelow and the accompanying drawings which are given by way of illustration only, and thus are not limitative of the present invention, and wherein:

FIG. 1 is a diagrammatic illustration of a conditional order transaction system in accordance with the present invention providing an overview of system operation;

FIG. 2 is a schematic block diagram of the system of FIG. 1 illustrating an example of the processing of an input order to the system;

FIG. 3 is a schematic illustration of the operation of the system in connection with a match order;

FIG. 4 is an illustration of a display screen at a trader/subscriber/user terminal for use in the system of the present invention depicting various display fields;

FIG. 5 is an illustration of the ticker display field portion of the display screen of FIG. 4;

FIG. 6 is an illustration of the security description line on the display screen of FIG. 4;

FIG. 7 is a display field of the active external market data on the display screen of FIG. 4;

FIG. 8 is the order book display field portion of the display screen of FIG. 4;

FIG. 9 is a quick-order entry field of the display screen of FIG. 4, which depicts quick-order entries and various trade reports;

FIG. 10 is the soft-key, wild-card display area of the display screen of FIG. 4;

FIG. 11 is the market monitor display field of the display screen of FIG. 4.

5

FIG. 12 is an example of a ticker display field on the screen of FIG. 4, with exemplary data thereon;

FIGS. 13 and 14, respectively, are portions of the order book displaying the data of FIG. 12 in two respective options, namely, a regular option in FIG. 13, and a spread option in FIG. 14;

FIG. 15 is a chart representing all of the orders input to the system over a selected 30-day period for example; and

FIG. 16 is an example of a regular convertible bond description form available to users of the system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, there are three scenarios depicted for use of the conditional order routing exchange (hereinafter CORE) of the present invention. The first scenario depicts a client/subscriber/trader request with a directed response. The second shows a client request whose response is disseminated to various interested parties. The third represents data originating outside of the system and distributed to all interested parties.

Directed Response

The CORE client program T1 formats and transmits a message for the system to handle DR1, expecting whatever response is appropriate to be directed only to the initiating program. The message is transmitted via the internet or some virtual network 14 through a messaging server 12, an application charged with delivering messages from one sender to one or more recipients, guaranteeing the delivery of the message, integrity of its contents, and the preservation of the order in which the orders were sent. The message is delivered to the system through a server topic ST1, a messaging server mechanism configured to allow messages to be retrieved by the system exactly once. A collection of server-side application designed to cooperate in the present invention's centralized data processing, i.e. CORE Central Systems 10, a messaging server mechanism configured to allow message to be retrieved by a client exactly once.

Distributed Response

The CORE client program T2 formats and transmits a message for the system to handle DR2, expecting whatever response is appropriate to be distributed to every client program that has expressed interest in this information. The message is transmitted via the Internet or some virtual network 14 through the messaging server 12. The message is delivered to the system through a server topic ST2, guaranteeing it will be processed exactly once. The CORE Central Systems 10 process the client request and distribute any appropriate data through a distributed topic DT2 to any clients that have expressed interest in this data T3, including the originating program T2.

Distributed Event

The CORE Central Systems 10 receive data, from some external source, that needs to be redistributed internally. The system formats and transmits a message, including the external data, through a distributed topic DT3 to any clients that have expressed interest in this data T3. The message DR3 is delivered from the system through the messaging server 12 via the Internet or some virtual network 14.

FIG. 2 illustrates the placing an order in the system of the present invention. This scenario depicts a situation where one client has requested to be informed on events related to a given security sometime before a second client places an order for that security.

6

An overview of the steps is as follows:

1. Monitor Security
2. Return Latest Data
3. Input Order
4. Distribute Order
5. Distribute Ticker Data

Monitor Security

The CORE client program T1 formats and transmits a message for the system to handle, requesting to be kept informed on changes concerning a certain security. The client expects whatever response is appropriate to be directed only to the initiating program. The message is transmitted via the Internet or some virtual network 14 through a messaging server 12. The message is delivered to the system through a server topic, guaranteeing that it will be processed exactly once. A server-side component charged with tracking the expressed interests of client applications SM2 received the message and makes the proper changes to its subscription lists.

Place an Order

At some later time, a CORE client program T2 formats and transmits a message for the system to place a new order for the security in question. The client expects a positive response to be directed to all interested parties interacting with the system. The message is transmitted via the Internet or some virtual network 14 through a messaging server 12. The message is delivered to the system through a server topic, guaranteeing that it will be processed exactly once. A server-side component charged with routing and matching orders TE receives the message and makes the proper changes to its active orders lists. Details of the new order are then transmitted to any registered interested party T1 and T2 via the appropriate distributed topic. Order details relevant to the ticker (which is potentially run on every client) is transmitted through a special distribution topic, the ticker topic, which is configured to be read once by every client that has registered as a party interested in this information.

FIG. 3 illustrates the processing of a match order using the system of FIG. 1. This scenario depicts a situation where one client has requested to be informed on events related to a given security sometime, then a second client places a bid for that security, then a third client places an ask for that same security.

An overview of the processing steps are numbered in FIG. 2 as follows:

1. Monitor Security
2. Return Latest Data
3. Input Bid Order
4. Distribute Bid Order
5. Distribute Ticker Data
6. Input Ask Order
7. Distribute Ask Order (also Distribute Ticker Data)
8. External prices converge making orders cross
9. Crossed orders are matched
10. Distribute Trade Detail

Monitor Security

The CORE client program T1 formats and transmits a message for the system to handle, requesting to be kept informed on changes concerning a certain security. The client expects whatever response is appropriate to be directed only to the initiating program. The message is

transmitted via the Internet or some virtual network **14** through a messaging server **12**. The message is delivered to the system through a server topic **ST1**, guaranteeing that it will be processed exactly once. A server-side component charged with tracking the expressed interests of client applications **SM2** receives the message and makes the proper changes to its subscription lists. The subscription manager also ensures that any current information on the interesting security is formatted and transmitted directly to the initiating program via a directed topic **DT1**.

Place a Bid Order

At some later time, a CORE client program **T2** formats and transmits a message for the system to place a new bid order for the security in question. The client expects a positive response to be directed to all interested parties interaction with the system. The message is transmitted via the Internet or some virtual network **14** through a messaging server **12**. The message is delivered to the system through a server topic **ST2**, guaranteeing that it will be processed exactly once. A server-side component charged with routing and matching orders **TE** receives the message and makes the proper changes to its active orders lists. Details of the new order are then transmitted to any registered interested party **T1, T2** via the appropriate distributed topic.

Order details relevant to the ticker (which is potentially run on every client) is transmitted through a special distribution topic, the ticker topic, which is configured to be read once by the ticker agent **TA** of every client that has registered as a party interested in this information.

Place an Ask Order

At some later time, a CORE client program **T3** formats and transmits a message for the system to place a new ask order for the security in question. The client expects a positive response to be directed to all interested parties interacting with the system. The message is transmitted via the Internet or some virtual network **14** through a messaging server **12**. The message is delivered to the system through a server topic **ST2**, guaranteeing that it will be processed exactly once. A server-side component charged with routing and matching orders **TE** receives the message and makes the proper changes to its active orders lists. Details of the new order are then transmitted to any registered interested party **T1, T2** and **T3** via the appropriate distributed topic.

FIGS. 4 to 14 illustrate features of a client/subscriber/trader display screen using the system of **FIG. 1**. The network is designed to increase the price transparency of these types of transactions among the users of the system. To accomplish this, the system provides real-time market data and communication links between hedge funds, institutions, professional money managers, exchange specialists, Nasdaq market-makers, and international banks and broker-dealers.

A variety of trading related functions is provided to trader/subscribers. These functions include: monitoring securities of various types, receiving market data, entering and executing orders on the proprietary order book, negotiating trades against other orders in the book, and routing orders to various exchanges such as the NYSE, Nasdaq, AMEX and the PSE through DOT, ITS or SelectNet. In addition, subscribers may automatically receive and monitor confirmations of trade executions, access static data from the system database and analyze securities or potential trades using that data and real-time prices.

The functions available to the user include the following:

- 1) A ticker tape with unique features and form;
- 2) A specially designed order book including:
 - a) Order routing into the book
 - b) Order routing to NYSE/AMEX via DOT
 - c) Order routing to Nasdaq via SelectNet
 - d) ITS linked order routing through the PSE
 - e) Trade Report Monitor
 - f) Viewing the book sorted by prices
- 3) Wild Card Workspace including:
 - a) Security Market Monitor
 - b) Nasdaq Level II
 - c) Basket Order Entry/Order Management
 - d) Graphic representation of past orders or trades on the book
 - e) Database, Research, and Analysis
 - f) Administrative Messaging

FIG. 4 depicts the display screen **100** of a subscriber/trader terminal.

FIGS. 5 to 14 depict the separate component sections of the display screen of **FIG. 4**.

FIG. 5—The Ticker Section

The ticker tape **102** allows users to view information within the system in a consistent and intuitive manner. Initially, the information displayed will include all bids and offers which are entered into the CORE system Order Book as well as all trades which occur on the system. These bids, offers and trades will include the following data elements relative to each: Security identification symbol; whether the order is a bid, an offer, or a trade; quantity; and price versus its related security price. As an example, a customer entering an order to Buy 250M Staples 5% Mar. 1, 2005, 144a bonds at a price of 114¼ conditioned upon selling 2000 shares of Staples common stock short at 22½ would be displayed on the Ticker as “. . . [SPLS.AB].B 250M 114¼ v 22½ . . .”. A sell order would be represented by the letter “S” after the symbol, and a trade would be represented by a “T”. The relationship of the order to the user will invoke a color-coding scheme on the user’s terminal. For example, if a user has an active order on the book in a security and someone puts either a competing or opposite order on the book, the new order will be displayed on the Ticker with a white background and either a blue or red foreground depending upon its direction (buy or sell). Other highlights like color, flash, and or special symbols will be used sparingly.

Symbols follow a couple of simple rules. Generally the common stock symbol used in its primary exchange is the first section before a dot (.), then either an R, A, S, E, or pr, pa, ps, pe. The “R” means the security has been registered, “A” means the security has a **144a** status, “S” means regulation “S” status, “E” means eurobond, and pr means the security is a preferred stock. Generally, if a security derives its value from the price of the common stock in the symbol, the security symbol alone is used in the ticker, however, a more generalized symbol would be [APEprA/NB], or [LYX/LYO] where the first security is the security which derives its value in part from the value of the second security. This convention will be useful when the systems are developed for risk arbitrage, pairs, baskets, ADRs, or options.

The Ticker does not capture all of the information available. It displays only enough information for a user to screen for important bids, offers, and trades. A user can attain all available information behind the Ticker by selecting that symbol for the Order Book, or by clicking the ticker item which will have the same effect. If “[LODG.RA]. B 200M 103² v 22a7” is used as an example, clicking on the “[LODG.RA]” will pull up the 5thMarket Convertible Order Book for [LODG.RA]; clicking on the “.B” will bring up both the Convertible Order Book for [LODG.RA] and a “Negotiation They Buy/We Sell Ticket” with the Symbol defaulted to [LODG.RA]; clicking on “200M” will bring up the Order Book, a “Negotiation They Buy/We Sell Ticket”, and will place the Symbol and “200M” in the order form and

lastly; clicking on 103² will bring up all of the above plus fill in the Buy Order Form with all of the information needed to execute the trade, defaulted to the buyers “buy parameters” and calculated on a dollar neutral basis to the current stock price. This may seem complex but intuitively, clicking on the symbol means you want to see that security, clicking on the .B or .S means you want to Buy or Sell, clicking on the volume means you want to buy or sell that volume, and clicking on the price means you want to buy or sell that volume at that price.

The following are examples of different types of Tickers and what they an, they correspond to examples of orders displayed in the Order Book:

1	[LODG.RA].B 100M 102 ⁷	Sholodge; Registered; 7½% 5/15/03; Buyer; \$100,000 face amount; Price = 102⅞; not conditional upon the price of any other security.
2	[LODG.RA].S 100M 103 ⁷ v 22 ²	Sholodge; Registered; 7½% 5/15/03; Seller; \$100,000 face amount; Price = 103⅞; Sale conditioned upon purchasing the common stock of Sholodge at 22¼.
3	[LODG.RA].B 100M 102 p 21 ⁴	Sholodge; Registered; 7½% 5/15/03; Buyer; \$100,000 face amount; Price = 102; Purchase conditioned upon the bid in the primary market being 21½(read: pegged to the bid) no stock will trade concurrently with the execution of this buy order.
4	[LODG.RA].T 95M 103.27 v 23 ¹	Sholodge; Registered; 7½% 5/15/03; Trade; \$95,000 face amount; Price = 103.27XX; Traded simultaneously with the common stock of Sholodge at 23 ¹ .
5	<div>[SPLS.AA].B 250M 114.25 vs 22.5</div>	This is the general format for a ticker item, white on black, followed by several dots . . . , not bold.
6	<div>[JBNK/WB].B 20,000 \$1.06 disc. . . .</div>	This format is one which occurs when the current user has an active order in [JBNK/WB] and a buy order is placed on the book. (blue on white)
7	<div>[SPLS.AA].S 200M 115 1/4v 23 3/4 . . .</div>	This format is one which occurs when the current user has an active order in [SPLS.AA] and a sell order is placed on the book. (red on white)
8	[RXT.SA].S 500M 113 v 21 ²	Renal Treatment Seller of 500,000 face of the Reg. S bond at 113 versus buying stock at 21¼
9	[AAPL].B 3000 22 ²	Apple Computer common stock buyer.
10	[LYX/LYO].S 5000 34 ¹ v 22 ²	Seller of LYX versus buying LYO (generalized form)
11	[JBNK/WB].B 5000 1.06d	Risk arb. discount nomenclature. Client transforms generalized form into discount nomenclature before displaying.
12	[JBNK/WB].S 4500 .95d ☎	Same as above, but the offer was made over the phone and is now subject.
13	[FSFC/CAFC].S 5000 14 ² v 15a1	Risk arb. usual format,
14	Flashing Ticker Items	When an offering is made at or lower than the last trade, it should blink 5 times, and when a bid is made at or higher than the last trade, it should blink 5 times.

11

FIG. 6—Security Description Line

The system provides users with one line 104 of static descriptive information about the security which is being monitored on the Trade Book. This data includes: security symbol, name of issuer, coupon information, maturity information, registration type (registered, 144a, regulation S, etc.), cusip or other security identifier, symbol of the underlying security, and conversion ratio. This information is displayed to insure that the user is monitoring or trading the correct security.

Description	Function
1 Softkey for symbol entry	pulls down options: Input; Directory; Symbol Description
2 System Symbol of the security currently being monitored on the order book	main identifier for system
3 Name of Issuer	from static database
4 Coupon/Dividend of Security	from static database
5 Maturity Date of Security if applicable	from static database
6 Registered/144a/Reg S/Euro trache of Security	from static database
7 Cusip or other identifier	from static database
8 Symbol of Related (underlying) security	from static database
9 Conversion Ratio of security	from static database (daily update/check)

FIG. 7—Active Market Data

Users are provided with external pricing of securities that are being quoted on the Order Book. The following pricing information is provided on both the security presently on the Order Book and its underlying security.

Description
1 Last Trade of Security on its primary exchange (NYSE, AMEX, Nasdaq) and difference from previous days close.
2 Current Bid and Offer of the security on its primary exchange
3 Size of the bid and offer of the security on its primary market
4 The number of Subscribers currently monitoring that particular security
5 The last trade of the related security on its primary exchange and its difference from the previous days close
6 The current bid and offer of the related security on its primary exchange
7 The size of the bid and offer of the related security on its primary exchange sized to convention
8

FIG. 8—Order Book

The Order Book allows users to present bids or offers to, negotiate with, or trade with other users of the system. Users may access the order book through various means including:

12

clicking on a particular order displayed on the Ticker Tape, entering a symbol in the order book symbol space, or clicking on a symbol being displayed in the market monitor section. Once a user is viewing the Order Book, the user may enter an order, negotiate with an existing order on the book, trade against an order on the book, or execute any of the soft key functions.

1	2	2	M	4	USD	5
21-Aug	X	0.66	300		104.35	
9:25	T	0.68	500		103.875	
	p	0.65	45		104	
		0.64	200		103.45	
				5	vs	7
			75		103.25	
		0.64	250		103	
9:25	T	0.68	500		102.875	
21-Aug	X	0.66	300		102.56	

Self side of the order book 9

Buy side of the order book 3

1 Time or date the order expired or was traded

7 Key for various pieces of information

X→Expired; T→Traded; A→Accumulated; p→Percent only (no stock); + → Current user's order. N-non negotiable.

3 Hedge Ratio or Shares see #6

4 Principal amount of bonds (000's)

5 Price

6 Percent Softkey/Shares

Pushing% will change the character from a hedge percentage to a specific # of shares

7 Price of underlying security on which the view of the order is based. Defaults to an up-tick

Pushing the up button will move the price up by 16ths until the current offer price is reached, pushing the down button will move the price down until the bid is reached. Any price can be input into the field.

FIG. 9—Quick Order Entry/Trade Reports

The quick order entry workspace 108 allows users to enter orders directly into the order book or route orders to an exchange such as NYSE, AMEX or PSE through DOT and ITS or Nasdaq through SelectNet or an ECN.

The quick report display allows users to receive reports on all orders executed. Receipt of information other than via the quick report display will be handled by pop-up messaging and the Order Management System (OMS.)

FIG. 10—Soft Keys For Wild Card Area Display

The Soft Keys 110 located on the workspace 108 allow the user to access various pages, forms, and displays which are then displayed in the Wild Card Workspace. These function keys include:

Swap Buy	Conditional buy ticket for entering an order into the System book.	Pulls up form 1 (a), inserts the security displayed on the order book.
Swap Sell	Conditional sell ticket for entering an order into the System book.	Pulls up form 1 (b), inserts the security displayed on the order book.
Buy	Buy ticket for entering an outright order into the System book.	Pulls up form 1 (c), inserts the security displayed on the order book
Sell	Sell ticket for entering an outright order into the System book.	Pulls up form 1 (d), inserts the security displayed on the order book
Chart	Chart of bids, offers, and trades which have occurred in the System over a specified period.	Pulls up a display of the chart of the item displayed on the order book defaulted to 30 days.
Desc.	Gives users descriptive data on approximately 1000 securities.	Pulls up a display of a description of the security displayed on the order book.
Analyze	Allows users to analyze various security types based upon items available in the current database and current prices.	Pulls up an interactive form defaulted to the security displayed on the order book. The form different for different types of securities (Cvt Bonds, Cvt. Pref., Percs, Decs, Prides, Risk Arb., ADR's, etc.)
Calculator	Generally a "dollar neutral" calculator in the beginning.	Input price and hedge, output new price.
Monitor	Allows users to monitor the "top of the book" on approximately 36 securities.	Activates the Market Monitor section of the workspace. This is the default for the Wild Card Space.
OMS	Allows users to enter batch orders, review trade reports, view un-executed and expired orders, adjust prices or quantities and re-enter, and cancel orders.	Pulls up a list of orders (input by the user) with the stats. (active, expired, remaining, executed. . .) by time. There should be room for a dozen, and there will be some interaction between the OMS and the view of the Book. (e.g. Clicking on an order will pull that security into the book.
Stealth	Allows users to monitor various markets for price discrepancies. (not developed yet) Can also be used for internal order management.	Pulls up an indication input form.
NASDAQ	Allows users to view Nasdaq Level II information on any security.	Pulls up a display of Nasdaq Level II on the security displayed on the order book, or if not a Nasdaq security, then it would pull up a display of the underlying security.
Message	Allows users to send and receive messages from system operators. May eventually provide e-mail service and information delivery services.	Pop-ups for responses; form or input like e-mail.

Other Softkeys are available on the outskirts of the Workspace. They may include buttons for specific securities, switches for different types of order books (pairs, risk arbitrage, ADR's, or convertible securities), or keys for user default settings, maintenance and communications.

FIG. 11—Wild Card Workspace

The Market Monitor Screen 112 is the default screen in the Wild Card section of the workspace. The Wild Card section is the area to which all forms default when they are pulled from the soft keys in the Order Book section of the workspace. The Market Monitor Screen 112 is the default or background over which Wild Cards (forms, pop-ups, reports, etc.) make their presence when activated.

The Market Monitor Screen 112 is meant to avail the user of timely and pertinent trading information on several securities in an intuitive manner. This is accomplished by integrating real-time market pricing and a color-coding schema which alerts the user of potential risk and opportunities. It is meant to be viewed in conjunction with the Ticker Tape.

In the above Market Monitor Screen 112, there are three fields of information. The first field is input by the user, and linked to a symbol, probably the same symbol, to the database and pricing mechanism. The second field is the bid side of the market and the third field is the offer side of the market on the security.

White-on-blue fields indicate that the user has the best active bid, and white-on-red fields indicate the user has the best active offer on the book. Blanks indicate no active order

on that side of the market. And white-on-black items indicate someone other than that user has the best bid or offer on the book (the best offer and the best bid together are referred to as "the top of the book").

Prices may look different on the Market Monitor, if the user chooses that option, than they do on the book, because the monitor is designed to show either the "top of the book" or the "spread" market. A "spread" market, in this context, means the "top of the book" adjusted for the spread between the bid and ask on the underlying security. For example, a market on the order book showing "102-102½ versus 23¼" (top of the book) may appear as 101.84-102½ (spread), this difference is because the 102-102½ market is a market conditioned on a single stock price while the bid side of the "spread" market is conditioned on the bid for the stock, and the offer side of the "spread" market is conditioned on the offer for the stock. The Market Monitor is designed to display the market both ways. A simple example, depicted in FIGS. 12 to 14, should explain how the various sections of the display screen Workspace interact.

The chart in FIG. 15 represents orders put into the system, whether outright or on-swap (conditional orders are sometimes referred to as "on-swap"), and how the price would look had the user executed against that order using the current hedge. The red dots are sell orders, the blue are buy orders and the yellow are trades. This is proprietary data , and can be accessed by all users of the system. The chart is sized to cover only the Wild Card Area of the workspace.

Each datapoint is derived from an original order, for example [LODG.RA].S 250M 109 v 42^2 on Feb. 2, 1997,

15

might be represented on the graph as a point at 98.538 on Feb. 2, 1997 because the stock price when the graph was calculated was 38½ and the user defaulted the hedge ratio to 65% (conversion ratio is 42.92).

$$\text{datapoint} = \text{Bondprice} + [(\text{stockpx1} - \text{stockpx2}) \cdot \text{hedge.ratio} \cdot \text{conv.ratio}] \div 10$$

$$\text{datapoint} = 106 + \left[\left(38\frac{1}{2} - 42\frac{1}{4} \right) \cdot 65 \cdot 42.92 \right] \div 10 = 98.538$$

In the preferred embodiment of the present invention, the system sorts and displays the orders on a continuous basis, i.e., when a new order is entered, it is sorted by the client in the order of “best” price given; an underlying security price input, then, as the underlying security price input changes, (this is at least one, and the independent variable in our order’s algorithm) the prices of each order (dependent variable) are recalculated and re-sorted.

In other words, when there are two buy orders entered, one which may look like:

Buy 500 IBM 7½% Jan. 1, 2001 at 92, and a second which looks like:

Buy 500 IBM 7½% Jan. 1, 2001 at 91¾ versus selling 10,000 shares of common stock at \$35.00

They would be sorted:

Sort 1		
	500	35
	500	92
10,000	500	91¾

As the common goes up to \$37, the view would change to:

Sort 1		
	500	37
	500	95¾
10,000	500	92

The following examples of orders are processable by the system and method of the present invention.

EXAMPLE I

Order

A convertible bond trader wishes to advertise that he would like to purchase 50 ABC bonds at a price of \$102 and coincidentally sell 2000 shares of ABC common stock at a price of \$19, or the economic equivalent thereof. He is willing to effect this transaction for 30 minutes; he would not like the system to attempt to use other exchanges in its processing; he would like the offer to immediately expire in the event the common stock trades above \$21 or below \$17 during the life of the order; and he would like the order to be viewed by all of the participants, and he does not wish to execute any part of the trade if the portion executed is less than 25 bonds. The system is anonymous and “live”, so the user is not given a choice in these conditions.

The invention, in general, will allow the input and display of these orders, and will execute transactions if all of the conditions to each order are met. The invention will have

16

uses in many different security classes with different conditions having more or less significance to each class, as well as more or less significance to each subscriber. The invention will be of most use to subscribers who purchase and sell convertible securities, corporate bonds, options, futures contracts, and equities (specifically risk arbitrage). An example of an order for each class of security follows.

EXAMPLE II

Corporate Bonds

A corporate bond trader wishes to advertise that he would like to purchase 500M Citicorp 5% Jan. 1, 2001 bonds at a spread to the two-year-treasury of +65 basis points and simultaneously sell 500M of the two-year-treasury; he would like the order to expire in ½ hour; the minimum acceptable amount he is willing to transact is 100M; he is willing to allow the system to interact with other exchanges in its attempt to “fill” the order.

EXAMPLE III

Options

An option trader wishes to enter an order to purchase 10 march X calls on Microsoft at a volatility of 34% and coincidentally sell Y common shares of Microsoft at the price from which the volatility was calculated; where X can be any contract between 100 and 135 and Y is the corresponding “delta” arising from a calculation for that contract and the risk free interest rate defaulted to 6% multiplied by the number of contracts multiplied by a factor of 100 (one contract represents 100 shares); he is willing to execute any combination of contracts fitting this description but is only willing to purchase 10 total; he wants the offer to expire at the end of the day;

This order this is a “willingness matrix” (I’ll buy 10 march 100 calls and sell 600 shares or I’ll buy 10 march 105 calls and sell 610 shares or I’ll buy . . .) and parts of the matrix are displayed to subscribers as and how they request the data. Subscribers can view the data in a volatility matrix or a price matrix or in the case of reversals and conversions in a ROI/ROE matrix (users input cost of carry, leverage, etc., and the system displays the pricing using the assumptions given to the network by the subscriber, thus each subscriber may contemporaneously view the same order and see quite different volatility prices or ROE/ROI pricing. (i.e. To one subscriber the order may be displayed as a volatility bid of 34% and to another, because of a difference cost-of-carry, the same price bid may be 37%. The system is displaying the same order in a manner which is relevant to that specific user), however, the bid foremost in view does not change the order in which the orders are displayed Futures Contracts (options as well)

A futures trader wishes to purchase 10 may S&P contracts and sell 10 June S&P contracts for a 5-point credit; he is willing to do so for three hours, and is not willing to allow the system to interact with other networks or exchanges to accomplish the task; if the S&P underlying index moves by more than 20 points, he wants the system to kill the order. This is called a spread bid and provides efficiency to the marketplace so that different contract months will each derive some efficiency from efficiencies in other contracts; another example could easily be derived from a grain elevator company with empty elevators where they would contract to purchase grain (in the market) in May, and simultaneously wish to sell the grain in one or more contract

months in the future; they would take delivery, store the grain in the elevator, and make delivery later. In this way, the elevator company can create business (there are implied storage costs in the spreads of commodities)

Risk Arbitrage

A risk arbitrage trader wishes to purchase 25,000 shares of Mobil @ \$60 and sell-short 20,000 shares of Exxon @ \$80; he wishes the order to expire in 10 minutes, he wants to enter the order (and view the order book) from a screen by inputting the ROE bid or ROE offer with the system making the calculation to price from defaults previously input by the user (cost-of-carry, short rebates, expected closing date, delta, expected dividend, etc.); his minimum execution request is 5,000 shares; and he is not willing to allow the system to use other exchanges to attempt to satisfy the request or order.

These different types of orders, which can be placed into the networks can be executed by the system and/or viewed by other subscribers. A table of some of the conditions available for input by subscribers, viewable by other subscribers and executable by the system's trade engine is shown below:

TABLE 1

Field	Description	Examples
Type of Order	Buy, Sell, Swap Buy, Swap Sell, Pegged Buy, Pegged Sell: Buy/Sell are fixed price Swap Buy/Sell are variable price and subject to another transaction Pegged Buy/Sell are variable price and variable quantity but not subject to another transaction.	Buy/Sell = Buy 100 IBM for 122 ¼. Swap Buy/Sell = Buy 100 IBM for 122 and Sell 55 ABC at 40 ¼ or the economic equivalent thereof. Pegged Buy/Sell= Buy up to 100 IBM at Y where Y is 122 when the current bid for ABC is 40 ¼and moves up or down 55 cents per share for each \$1 move in the bid price of ABC.
Price	Value paid for the security;	104; or a function having one of the forms in Table 2
Quantity	Maximum Number of securities the subscriber is willing to purchase or sell;	500,000 principal amount; 20,000 shares; 50 contracts; or a function having one of the forms in Table 3
Minimum Quantity	Minimum number of securities the subscriber is willing to transact in either the first trade or in each trade as the subscriber chooses.	25,000 principal amount, etc. for each trade; 25,000 principal amount, etc. for the first trade with no minimum being required thereafter.
Collar Kill	The order should be cancelled upon an event. The event being the movement of the independent price variable (X)	Cancel the order if the price of XYZ (the secondary security) is above \$22/ or below \$17 per share.
Cap(Floor)	The price, Y, above (below) which the subscriber is not willing to enter into a transaction. It is different than the collar because it relates to the primary security in the transaction and not to	Price = Y = f(x) but not above 105; Price = Y = f(x) but not below 101. The cap will be useful in mitigating the risk of subscribers paying too much in their buy orders, and the floor will be useful in reducing the risk of

TABLE 1-continued

Field	Description	Examples
5	the underlying security or "independent variable X" and the order continues in a "live" state (not cancelled)	sellers selling too cheaply.
10 Stealth	The order is not viewable by any other subscribers, but the trade engine should execute a transaction if the conditions are met.	Buy up to 500,000 principal amount of XYZ at Y (where Y is a function) in the event someone independently enters a sell order at a price which is at or below Y and all other conditions are no, but don't allow subscribers to view the order

TABLE 2

Convertible Bond Function	$Y = f(x) = (X - PX1) * H \% * CR / F + PY1$, where X is the current price of the underlying security PX1 was the price of the underlying security input by the subscriber as a reference price to the price (PY1) he was willing to pay for the Bond. H % is the hedge ratio as a percentage, is applied to the Conversion Ratio CR, and is divided by a pricing factor F, which in most cases is 10 for domestic convertible bonds and 1 for convertible preferred stock. Thus, if the price of the common (X-PX1) moves by 25 cents per share and the conversion ratio is 40 shares per bond, the price Y will move up ½ point from the original price of PY1 if the Hedge Ratio as input by the subscriber entering the order is 50%. The factor of 10 is the conversion of \$5.00 ((\$.25/share)*.5*40 share/bond) to ½of 1% of the face amount (face amount = \$1,000). Prices are generally quoted in percent. IOW, a price of 102 would be \$1020.00/bond.
25	
30	
35	
40	
45	Straight Bonds (1 currency) Warrants Options (Black & Schoels) Options (Binomial) Risk Arbitrage General Form Straight Bonds (2 currency)
50	

What is claimed is:

1. A conditional order transaction network that matches or compares buy and sell orders for a plurality of security instruments based upon conditions set forth within the order, including price represented as an algorithm with constraints thereon, the transaction network comprising:

a variable number of trader terminals for entering an order for a security instrument in the form of an algorithm with constraints thereon that represent a willingness to transact, where price of one security is a dependent variable of the algorithm within the constraints and dynamically changing price of another security is an independent variable thereof, the price as the dependent variable being continuously changeable responsive to changes in price of the independent variable, the algorithm representing a buy or sell order; and

at least one controller computer coupled to each of the trader terminals over a communications network and receiving as inputs,

a) each algorithm with its corresponding constraints and

b) at least one external price feed depicting prices of various securities and contracts from external multiple exchanges which may be used as an independent variable of the algorithm or an input to a constraint variable, the controller computer comprising,

means for matching, in accordance with the constraints and conditions, algorithmic buy orders with algorithmic sell orders, one of the conditions being the requirement that two or more securities are tradable contemporaneously as a contingent trade of those respective securities, and

means for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders through the use of the external multiple data sources.

2. The conditional order transaction network of claim 1 wherein the order price, as represented in the form of an algorithm, includes an order quantity subject to another algorithm.

3. The conditional order transaction network of claim 2 wherein the price may be a yield.

4. The conditional order transaction network of claim 2 wherein the price may be a volatility.

5. The conditional order transaction network of claim 2 wherein the price may be a yield spread.

6. The conditional order transaction network of claim 1 wherein the controller computer matches/compares orders in real-time as each order is received at the controller computer and as each new price of each other underlying security is received at the controller computer.

7. The conditional order transaction network of claim 1 further comprising means for maintaining the identity of the terminal on which the order was entered.

8. The conditional order transaction network of claim 1 wherein the order algorithm can be represented as a line in two dimensional space with constraints having the price of one security as one axis and the price of another security as its other axis.

9. The conditional order transaction network of claim 1 wherein the instrument includes bonds.

10. The conditional order transaction network of claim 1 wherein the instrument includes warrants.

11. The conditional order transaction network of claim 1 wherein the independent variable may include multiple independent variables.

12. The conditional order transaction network of claim 1 wherein the sell order includes a sell short order.

13. The conditional order transaction network of claim 1 wherein the instrument includes convertible securities.

14. The conditional order transaction network of claim 1 wherein the instrument includes stocks.

15. The conditional order transaction network of claim 1 wherein the instrument includes options.

16. The conditional order transaction network of claim 1 wherein the instrument includes futures.

17. The conditional order transaction network of claim 1 wherein the instrument includes forward contracts.

18. The conditional order transaction network of claim 1 wherein the instrument includes swap contracts.

19. The conditional order transaction network of claim 1 wherein one of the conditions is that no transaction can occur when the independent variable price is above or below set limits.

20. The conditional order transaction network of claim 1 wherein one of the conditions is that the price is not to exceed a specified level regardless of the results produced by the algorithm.

21. The conditional order transaction network of claim 1 wherein one of the conditions is that the price is not to be less than a specified level regardless of the results produced by the algorithm.

22. The conditional order transaction network of claim 1 wherein one of the conditions is the requirement that the orders be matched/compared without use of prices fed from said external multiple exchanges.

23. The conditional order transaction network of claim 1, further including a plurality of trader workstations for trading and negotiating prospective trades for instruments referenced in buy and sell orders, based upon conditions set forth in the orders including price represented by an algorithm with constraints thereon, each workstation comprising;

a display device for displaying the selected parameters of buy and sell orders in a prioritized sequence in a descending order of favorability across a display field, with the most favorable order at one distal end and the least favorable at the other distal end;

an input device for entering outgoing orders to be traded or negotiated into the trader workstation; and

a computer for receiving the outgoing orders and incoming order information from traders' terminals, and for controlling the display device, said computer including, a comparator for comparing all incoming orders relative to outgoing orders, and

a sorter that resequences the orders in real-time in the display field as each order is received to reflect changes in the relative favorability of the orders responsive to changes in price of said another item as the independent variable.

24. A trader workstation for trading and negotiating prospective trades for securities referenced in buy and sell orders, based upon conditions set forth in the orders including price represented by an algorithm with constraints thereon, said algorithm representing a willingness to transact wherein price is a dependent variable of the algorithm and dynamically changing price of another security is an independent variable, the price as the dependent variable being continuously changeable responsive to changes in price of the independent variable, comprising;

a display device for displaying the selected parameters of buy and sell orders in a prioritized sequence in a descending order of favorability across a display field, with the most favorable order at one distal end and the least favorable at the other distal end;

an input device for entering outgoing orders to be traded or negotiated into the trader workstation; and

a computer for receiving the outgoing orders and incoming order information from traders' terminals, and for controlling the display device, said computer including, a comparator for comparing all incoming orders relative to outgoing orders, and

a sorter that resequences the orders in real-time in the display field as each order is received to reflect changes in the relative favorability of the orders responsive to dynamic changes in price of said another security as the independent variable.

25. The workstation of claim 24 wherein the order price, as represented by an algorithm, includes an order quantity subject to another algorithm.

21

26. The workstation of claim 25 wherein price may be a yield.

27. The workstation of claim 25 wherein price may be a volatility.

28. The workstation of claim 25 wherein price may be a yield spread.

29. The workstation of claim 24 wherein the computer matches/compares orders in real-time as each order is received at the computer and as each new price of each other conditional security is received at the computer.

30. The workstation of claim 24 further comprising means for maintaining the identity of the trader's terminal on which the order was entered.

31. The workstation of claim 24 wherein the order algorithm can be represented as a line in two-dimensional space with constraints having price of one security as one axis and price of another security as its other axis.

32. The workstation of claim 24 wherein the sell order includes a sell short order.

33. The workstation of claim 24 wherein the instrument includes convertible securities.

34. The workstation of claim 24 wherein the instrument includes stocks.

35. The workstation of claim 24 wherein the instrument includes options.

36. The workstation of claim 24 wherein the instrument includes futures.

37. The workstation of claim 24 wherein the instrument includes forward contracts.

38. The workstation of claim 24 wherein the instrument includes swap contracts.

39. The workstation of claim 24 wherein the relative favorability is determined by the current value of the underlying security.

40. The workstation of claim 24 wherein said display device further includes a ticker field, for displaying changing security values from external markets, an order entry field, for displaying current order information of the algorithms to be negotiated/traded, and a wild card field, for displaying research data related to the algorithms.

41. A conditional order transaction network that matches or compares buy and sell orders for a plurality of items based upon conditions set forth within the order, including price represented as an algorithm with constraints thereon, the conditional order transaction network comprising:

a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where price of one item is a dependent variable of the algorithm within the constraints and dynamically changing price of another item is an independent variable thereof, the price as the dependent variable being continuously changeable responsive to changes in price of the independent variable, the algorithm representing a buy or sell order; and

controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs, each algorithm with its corresponding constraints; and

means for matching, in accordance with the constraints and conditions, algorithmic or non-algorithmic buy orders with algorithmic or non-algorithmic sell orders,

22

one of the conditions being the requirement that two or more securities are tradable contemporaneously as a contingent trade of those respective securities responsive to changes in price of said another item as the independent variable.

42. The conditional order transaction network of claim 41, further including a plurality of trader workstations for trading and negotiating prospective trades for instruments referenced in buy and sell orders, based upon conditions set forth in the orders including price represented by an algorithm with constraints thereon, each workstation comprising:

a display device for displaying the selected parameters of buy and sell orders in a prioritized sequence in a descending order of favorability across a display field, with the most favorable order at one distal end and the least favorable at the other distal end;

an input device for entering outgoing orders to be traded or negotiated into the trader workstation; and

a computer for receiving the outgoing orders and incoming order information from traders' terminals, and for controlling the display device, said computer including, a comparator for comparing all incoming orders relative to outgoing orders, and

a sorter that resequences the orders in real-time in the display field as each order is received to reflect changes in the relative favorability of the orders responsive to changes in price of said another item as the independent variable.

43. A conditional order transaction network that electronically matches or compares buy and sell orders for a plurality of items from the same or diverse markets based upon conditions set forth within the order, including the represented as an algorithm with constraints thereon, the conditional order transaction network comprising:

a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where dynamically changing price is the dependent variable of the algorithm within the constraints and price of another item as an independent variable, the price as the dependent variable being continuously changeable responsive to changes in price of the independent variable, the algorithm representing a buy or sell order; and

controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs, each algorithm with its corresponding constraints;

means for matching, in accordance with the constraints and conditions, algorithmic or non-algorithmic buy orders with algorithmic or non-algorithmic sell orders, one of the conditions being the requirement that two or more items are tradable contemporaneously as a contingent trade of those respective items; and

simultaneously executing a trade of said items in the same or diverse markets as a single electronically matched trade responsive to dynamic changes in price of said another item as the independent variable.

* * * * *

TAB D



US006598026B1

(12) **United States Patent**
Ojha et al.

(10) **Patent No.:** **US 6,598,026 B1**
(45) **Date of Patent:** **Jul. 22, 2003**

- (54) **METHODS AND APPARATUS FOR BROKERING TRANSACTIONS**
- (75) Inventors: **Purnendu Shekhar Ojha**, San Francisco, CA (US); **Franklin Richard Schmidt**, San Francisco, CA (US); **Rafael Gustavo Ortiz**, La Honda, CA (US)
- (73) Assignee: **NexTag.com, Inc.**, San Mateo, CA (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
- (21) Appl. No.: **09/318,520**
- (22) Filed: **May 25, 1999**

Related U.S. Application Data

- (62) Division of application No. 09/265,511, filed on Mar. 9, 1999.
- (60) Provisional application No. 60/117,118, filed on Jan. 25, 1999.
- (51) **Int. Cl.**⁷ **G06F 17/60**
- (52) **U.S. Cl.** **705/26; 705/1; 705/80; 705/27**
- (58) **Field of Search** **705/26, 27, 1, 705/80, 37**

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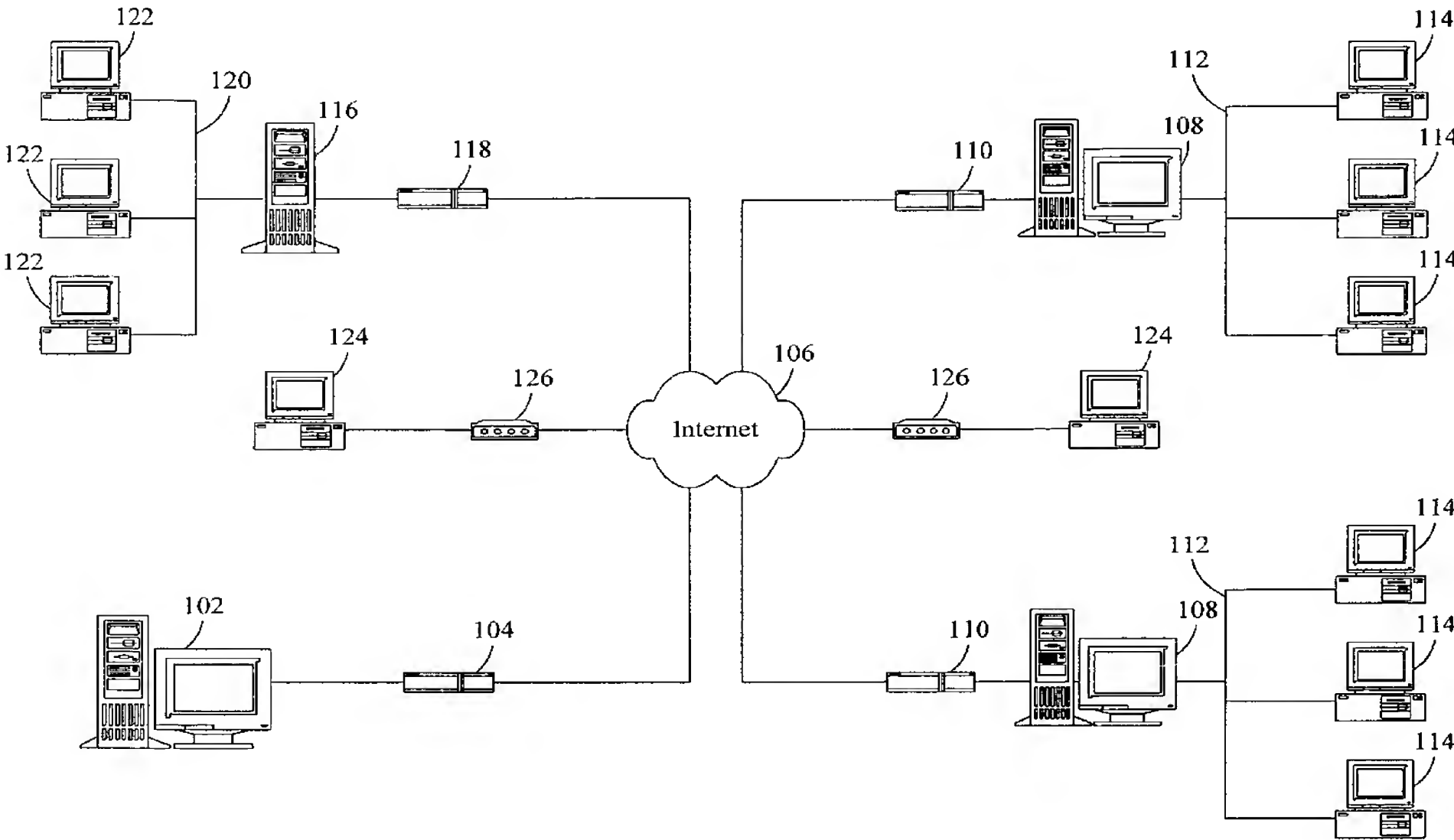
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Primary Examiner—Wynn W. Coggins
Assistant Examiner—Y. C. Garg
(74) *Attorney, Agent, or Firm*—Beyer Weaver & Thomas, LLP

(57) **ABSTRACT**

Methods and apparatus are described for facilitating a transaction between a buyer and one of a plurality of sellers via the Internet. Product information relating to a plurality of products meeting product criteria specified by the buyer is presented via the Internet. One of the plurality of sellers is associated with each of the products. A first bid from the buyer for a first one of the plurality of products is made available via the Internet to a first seller associated with the first product. A first bid response is presented via the Internet to the buyer according to response criteria specified by the first seller. Where the first bid response is an acceptance of the first bid, consummation of the transaction is facilitated. Where the first bid response is a counteroffer, further negotiation via the Internet between the buyer and the first seller is enabled.

13 Claims, 29 Drawing Sheets



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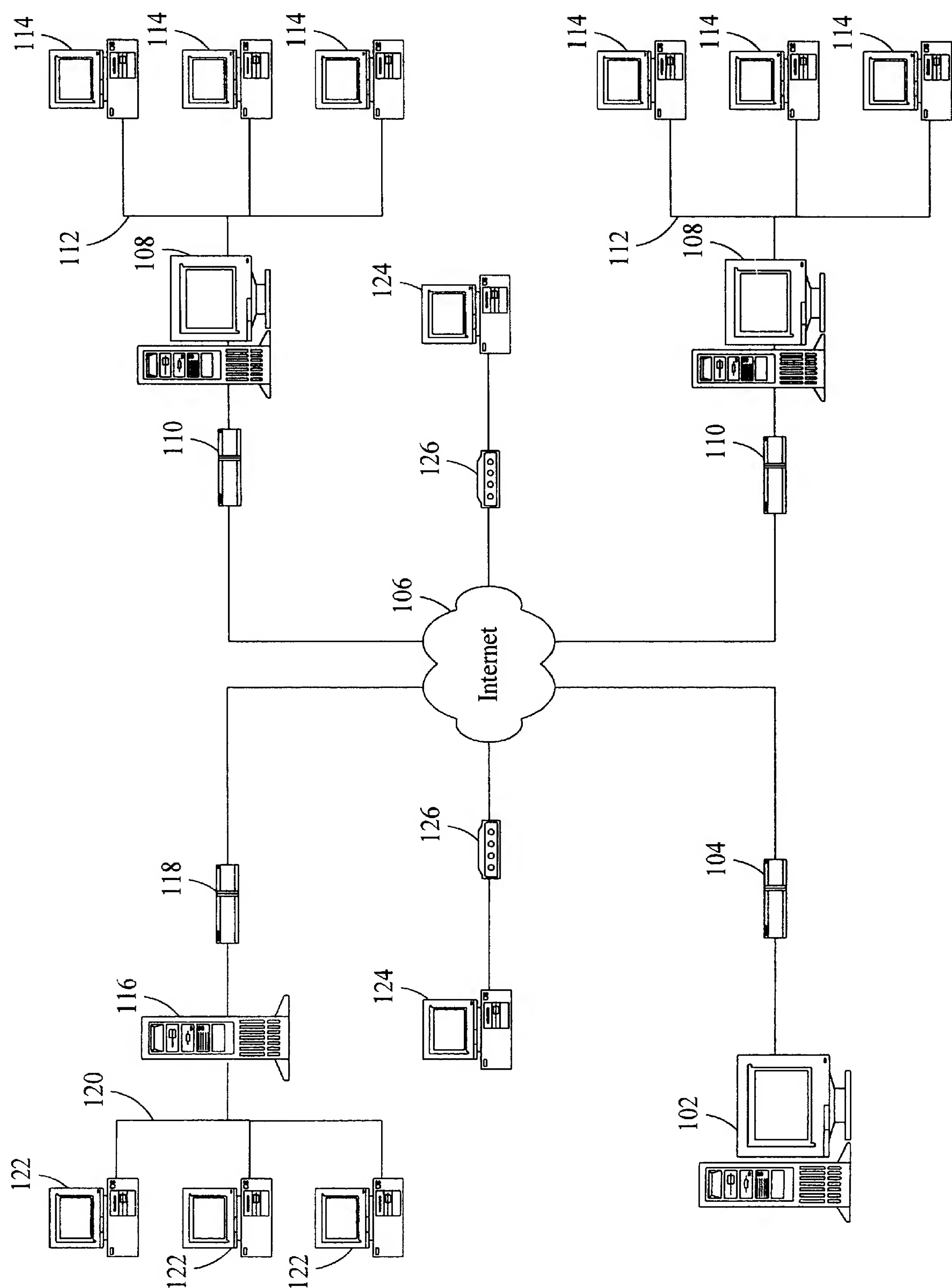


Fig. 1

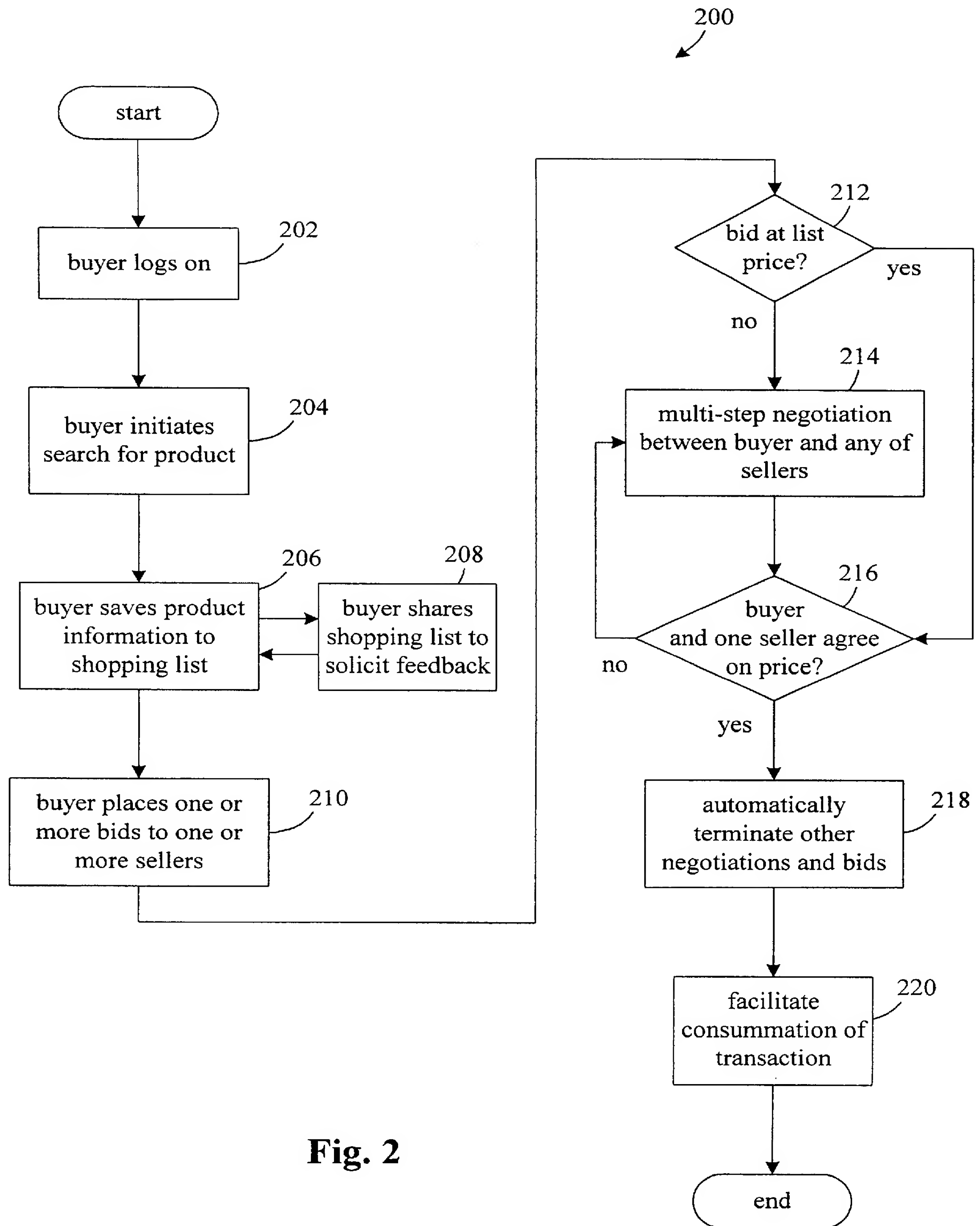
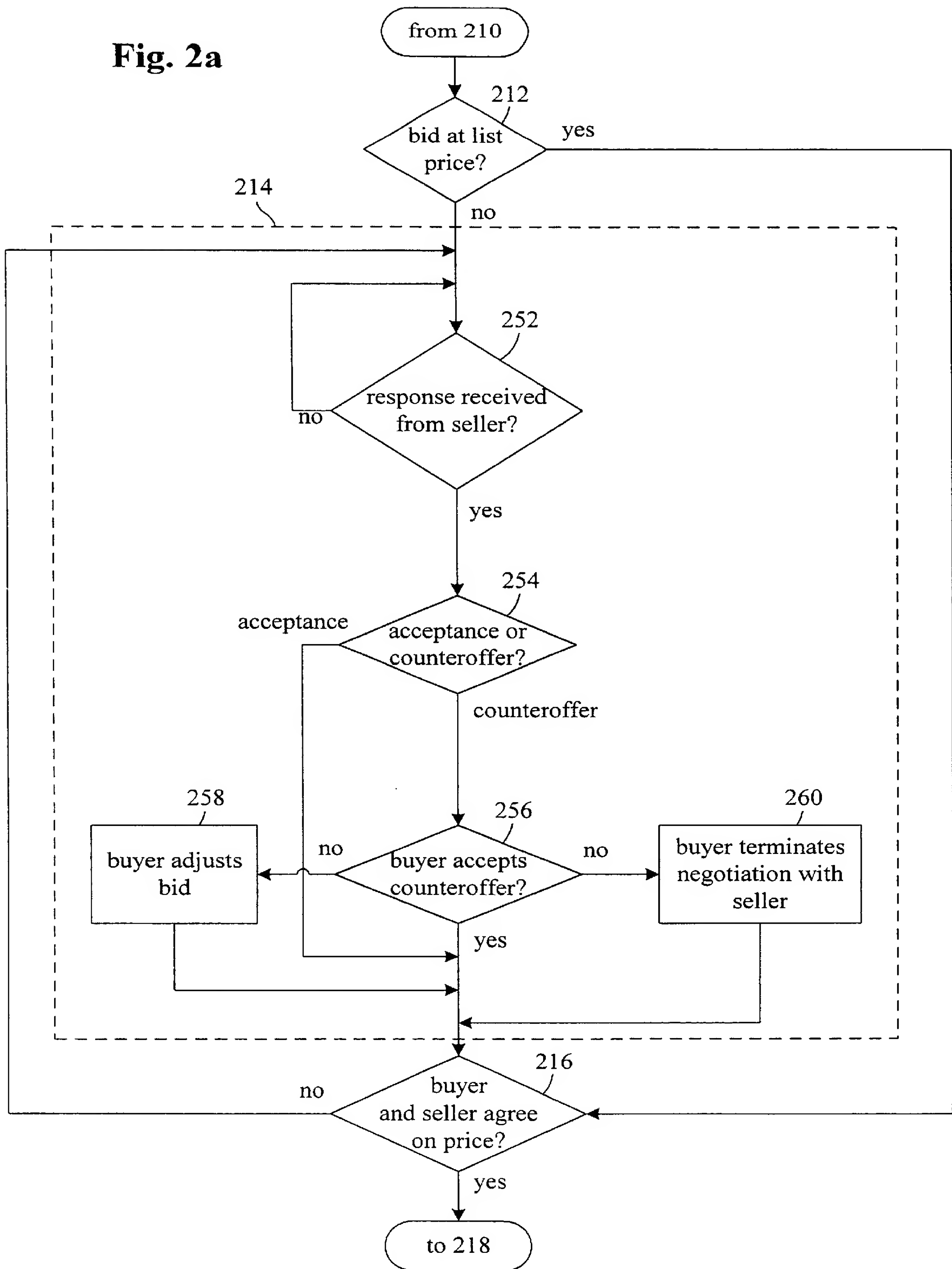
**Fig. 2**

Fig. 2a

Guest	NexTag Main	Merchant	User Registration	FAQ	Company Info
-------	-------------	----------	-------------------	-----	--------------

neXTAG --- for on-line Price Negotiations

THREE EASY STEPS FOR PRICE NEGOTIATIONS

1. Search for Computer Products you want
2. Save alternatives from search results into your list
3. Start negotiations by placing bids for selected items in your list

Email

joev@beyerlaw.com

Password

Login

[I forgot my password](#)

[I would like to Register](#)

Hi Guest

User level: "Beginner"

Multi-merchant Product search

Product Type

ANY

[Advanced Search](#)

Keyword (s):

Go

SHORTLIST FOR my list				Sorted by <div>Most Recent</div>					
Product	Manufacturer	Merchant	List Price	Comments	Ask Price	Bid Price	Bid	Edit	
Share your lists with friends family or co-workers - get their opinions for you purchase									
Email this table to:						<div>Send</div>			

Fig. 3

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info
------------------------	-----------------------------	--------------------------	------------------------------	---------------------	------------------------------

Joe's Dashboard:

User level: Intermediate

Step 1. Use Existing Shopping list or create a new one by typing an item name and clicking "New"

SHOPPING LIST

my list

▼

Edit

New

Step 2. Multi-merchant Product search - to identify alternatives for your Shopping List item.

Product type

Laptop

▼

[Advanced Search](#)

Keyword (s):

thinkpad 600

Go

SHORTLIST FOR my list				Sorted by				<div>Most Recent</div> ▼	
Product	Manufacturer	Merchant	List Price	Comments	Ask Price	Bid Price	Bid	Edit	
Share your lists with friends family or co-workers - get their opinions for you purchase									
Email this table to:					<div></div> <div>Send</div>				

Fig. 4

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info
------------------------	-----------------------------	--------------------------	------------------------------	---------------------	------------------------------

Nextag Advanced Search:

Make selections to describe the Product you are looking for:

Product type: ▼ Media: ▼

Processor: ▼ Speed: ▼

Display Size: ▼

Type in any of the parameters below and click search

Manufacturer: List Price Range: Min.(\$): Max.(\$):

Keywords:

NexTag Search Results:

14 Products found

SORT BY:

Manufacturer	Product	Lowest Price	Save to List
IBM	<u>THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95</u>	\$2198.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95</u>	\$2248.00	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2 300PE 4.0GB 32MB 13.3 TFT 24X WIN 98/95</u>	\$2732.36	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-266 4.0GB 32MB 13.3 TFT 24X WIN 95</u>	\$2798.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-266 NO HD 32MB 13.3 TFT NO O/S (NIP)</u>	\$2811.93	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-300 5.1GB 64MB 24X 13.3 TFT WIN NT</u>	\$3455.22	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-266 4.0GB NO*IBM*PROGRAM*DISCOUNTS NO*RET</u>	\$3490.19	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-300 5.1GB 64MB 24X 13.3 TFT WIN 98</u>	\$3498.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-300 6.4GB 64MB DVD 13.3 TFT WIN 98</u>	\$3651.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-300 6.4GB 32MB 13.3 TFT 2X DVD WIN 98</u>	\$3698.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-366 6.4GB 64MB 13.3 TFT 24X WIN98/95</u>	\$3828.92	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-366 6.4GB 64MB 13.3 TFT DVD WIN 98/95</u>	\$3920.81	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-366 6.4GB 64MB 13.3 TFT 24X NT</u>	\$3920.81	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-300 5.1GB NO IBM PROGRAM DISCOUNTS/NO RET</u>	\$4152.28	<input type="button" value="Save"/>

Fig. 5

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info
------------------------	-----------------------------	--------------------------	------------------------------	---------------------	------------------------------

Nextag Advanced Search:

Make selections to describe the Product you are looking for:

Product type: ▼ Media: ▼

Processor: ▼ Speed: ▼

Display Size: ▼

Type in any of the parameters below and click search

Manufacturer: List Price Range: Min.(\$): Max.(\$):

Keywords:

NexTag Search Results:

14 Products found

SORT BY:

Manufacturer	Product	Lowest Price	Save to List
IBM	<u>THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95</u>	\$2198.99	Saved
IBM	<u>THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95</u>	\$2248.00	Saved
IBM	<u>THINKPAD 600E P2 300PE 4.0GB 32MB 13.3 TFT 24X WIN 98/95</u>	\$2732.36	Saved
IBM	<u>THINKPAD 600 P2-266 4.0GB 32MB 13.3 TFT 24X WIN 95</u>	\$2798.99	Saved
IBM	<u>THINKPAD 600 P2-266 NO HD 32MB 13.3 TFT NO O/S (NIP)</u>	\$2811.93	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-300 5.1GB 64MB 24X 13.3 TFT WIN NT</u>	\$3455.22	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-266 4.0GB NO*IBM*PROGRAM*DISCOUNTS NO*RET</u>	\$3490.19	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-300 5.1GB 64MB 24X 13.3 TFT WIN 98</u>	\$3498.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-300 6.4GB 64MB DVD 13.3 TFT WIN 98</u>	\$3651.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-300 6.4GB 32MB 13.3 TFT 2X DVD WIN 98</u>	\$3698.99	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-366 6.4GB 64MB 13.3 TFT 24X WIN98/95</u>	\$3828.92	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-366 6.4GB 64MB 13.3 TFT DVD WIN 98/95</u>	\$3920.81	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600E P2-366 6.4GB 64MB 13.3 TFT 24X NT</u>	\$3920.81	<input type="button" value="Save"/>
IBM	<u>THINKPAD 600 P2-300 5.1GB NO IBM PROGRAM DISCOUNTS/NO RET</u>	\$4152.28	<input type="button" value="Save"/>

Fig. 6

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info	Help
------------------------	-----------------------------	--------------------------	------------------------------	---------------------	------------------------------	----------------------

Joe's Dashboard:

Step 1. Multi-merchant Product search - to identify alternatives for your Shopping List item.

Product type [Advanced Search](#)

Keyword (s):

Step 2. Use Existing Shopping list or create a new one by clicking "New"

SHOPPING LIST

SHOPPING LIST FOR my list

IBM	<u>THINKPAD 600 P2-233 3.2GB 32MB 12.1</u> <u>TFT 24X WIN 95</u>	Units: <input type="text" value="1"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>
IBM	<u>THINKPAD 600 P2-233 3.2GB 32MB 12.1</u> <u>TFT 24X WIN 95</u>	Units: <input type="text" value="1"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>
IBM	<u>THINKPAD 600E P2 300PE 4.0GB 32MB</u> <u>13.3 TFT 24X WIN 98/95</u>	Units: <input type="text" value="1"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>
IBM	<u>THINKPAD 600 P2-266 4.0GB 32MB 13.3</u> <u>TFT 24X WIN 95</u>	Units: <input type="text" value="1"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

Share your lists with friends family or co-workers - get their opinions for you purchase

Email this table to:

Beta evaluators, please email your feedback to beta@nextag.com

Fig. 7

Logout	NexTag Main	Adv. Search Product Details	Account Info	FAQ	Company Info
------------------------	-----------------------------	---	------------------------------	---------------------	------------------------------

NexTag -- Product Details and Prices at ALL Merchants

SHOPPING LIST ▼

Manufacturer	Product	Manuf.Part#	Units
IBM	THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	264535U	<input type="text" value="1"/>

Merchant	Updated	In Stock?	List	Ask		Bid	Save
Merchant 1	Feb 3, 1999	Y	\$2198.99	\$2198.99	<input type="button" value="Buy"/>	<input type="text" value="2000.0"/> <input type="button" value="Bid"/>	<input type="button" value="Save"/>
Merchant 2	Dec10, 1998	Y	\$2794.39	\$2794.39	<input type="button" value="Buy"/>	<input type="text"/> <input type="button" value="Bid"/>	<input type="button" value="Save"/>
Merchant 3	Jan 13, 1999		\$2800.19	\$2800.19	<input type="button" value="Buy"/>	<input type="text"/> <input type="button" value="Bid"/>	<input type="button" value="Save"/>
Merchant 4	Nov 30, 1998	Yes	\$2829.00	\$2829.00	<input type="button" value="Buy"/>	<input type="text"/> <input type="button" value="Bid"/>	<input type="button" value="Save"/>
Merchant 5	Jan 3, 1999		\$2985.99	\$2985.99	<input type="button" value="Buy"/>	<input type="text"/> <input type="button" value="Bid"/>	<input type="button" value="Save"/>
<div></div>							

Product Description:

PRODUCT IMAGE & DESCRIPTION

800

Fig. 8

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info	Help
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Joe's Dashboard:

Step 1. Multi-merchant Product search - to identify alternatives for your Shopping List item.

Product type [Advanced Search](#)

Keyword (s):

Step 2. Use Existing Shopping list or create a new one by clicking "New"

SHOPPING LIST

SHOPPING LIST FOR my list

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 ☒
TFT 24X WIN 95

Merchant	List Price	Ask Price		Bid Price		
Merchant 1	\$2198.99	\$2198.99	<input type="button" value="Buy"/>	\$ <input type="text" value="2000.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>
	\$2198.99	\$2198.99	<input type="button" value="Buy"/>	\$ <input type="text"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 ☒
TFT 24X WIN 95

Merchant	List Price	Ask Price		Bid Price		
Merchant 4	\$2248.00	\$2248.00	<input type="button" value="Buy"/>	\$ <input type="text" value="2100.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

IBM THINKPAD 600E P2 300PE 4.0GB 32MB Units: 1 ☒
13.3 TFT 24X WIN 98/95

Merchant	List Price	Ask Price		Bid Price		
Merchant 6	\$2732.36	\$2732.36	<input type="button" value="Buy"/>	\$ <input type="text" value="2500.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

IBM THINKPAD 600 P2-266 4.0GB 32MB 13.3 Units: 1 ☒
TFT 24X WIN95

Merchant	List Price	Ask Price		Bid Price		
Merchant 1	\$2798.99	\$2798.99	<input type="button" value="Buy"/>	\$ <input type="text" value="2600.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

Share your lists with friends family or co-workers - get their opinions for you purchase

Email this table to:

Beta evaluators, please email your feedback to beta@nextag.com

Merchant Login	NexTag Main	Adv. Search	FAQ	Company Info
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neXTAG --- login page for Member Merchants

Your Website for:

1. Incremental revenues from existing and new customers
2. Cost savings: Lowering your call center costs
3. Selectively lower pricing for selected buyers without affecting prices charged to others
4. Making Block sales by lowering prices by an amount driven by real-time product demand curves
5. Market and Buyer data including real-time demand curves, and product price histories

Registered members

Merchant
Visitors

Email

[Buyer
Services
Contact Us to
join](#)

Password

Login

[I forgot my password](#)

1000

Fig. 10

Logout	Dashboard Edit this View	Account Info	Business Rules	NexTag Main
------------------------	---	------------------------------	--------------------------------	-----------------------------

NexTag Merchant Main: super for Merchant 1

Bids to Display:				Sorting Order			
By Bid Type:	By Bid-List Spread			Primary	Secondary		
All Bids ▼	Max \$: <input type="text"/>	<input type="button" value="OK"/>	Max % <input type="text"/> ▼	Buyer ▼	<input type="text"/> ▼		
Product	Buyer Id	Units	Your List	Your Ask	Bid to You	Min Bid	Max Bid
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	187		\$2198.99	\$2198.99			
PALM III CONNECTED ORGANIZER PALMPILOT	148	5	\$269.00			\$305.00	\$305.00
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	147	1	\$2198.99	\$2198.99	\$2000.00	\$2000.00	\$2000.00
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	147	1				\$2100.00	\$2100.00
THINKPAD 600E P2 300PE 4.0GB 32MB 13.3 TFT 24X WIN 98/95	147	1	\$2999.00			\$2500.00	\$2500.00
THINKPAD 600 P2-266 4.0GB 32MB 13.3 TFT 24X WIN 95	147	1	\$2798.99	\$2798.99	\$2600.00	\$2600.00	\$2600.00
OMNIBOOK 2100 P2-233 4.0GB-HD 32MB 12.1 TFT 24X WIN 95 NO PP	128		\$1998.99	\$1998.99			
OMNIBOOK 2100 P2-266 4.0GB-HD 32MB 12.1 TFT 24X WIN 95 NO PP/R	128		\$2398.99	\$2398.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	127		\$2198.99	\$2198.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	109		\$2198.99	\$2198.99			
BACKOFFICE SMALL BUSINESS SRV WIN-NT W/OFFICE PRO 5 CLIENT	109	10	\$3350.00			\$2800.00	\$2800.00
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	108		\$2198.99	\$2198.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	107						
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	88		\$2198.99	\$2198.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	87		\$2198.99	\$2198.99			
PALM III CONNECTED ORGANIZER	67	1	\$269.00	\$269.00	\$265.00	\$265.00	\$265.00

Pages: 1 2 3

1100

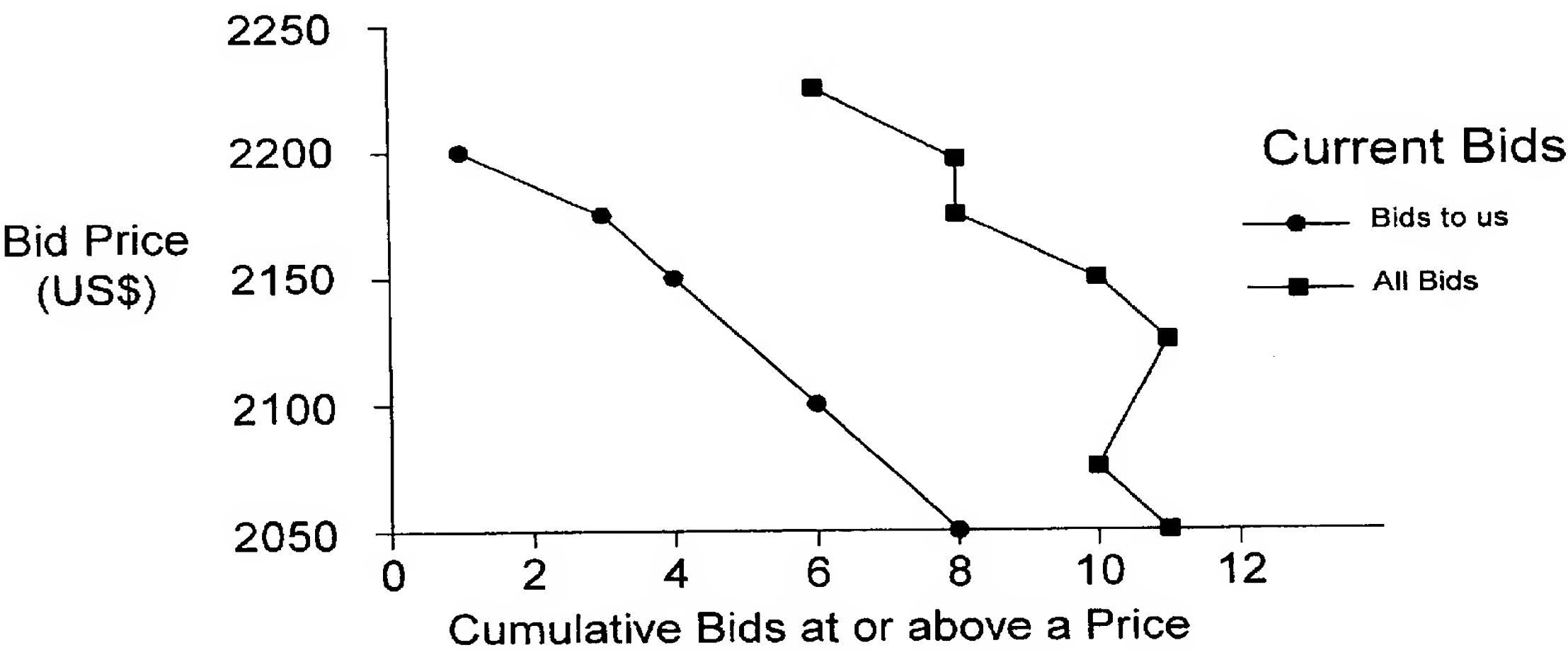
Fig. 11

Logout	Dashboard	Account Info	Business Rules	NexTag Main
	Trading Screen			

NexTag Trading Screen for Merchant 1

Product	Manufacturer	Manuf. Part#	List Price	Ask Price	Buyer Email	Bid Price
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	IBM	264535U	\$2198.99	\$2198.99	joev@beyerlaw.com	\$2000.00

BID-SPECIFIC RESPONSE	
You have two options for this bid:	
1. Accept the Buyer's Bid Price:	<input type="button" value="Accept Bid Price"/>
2. Change your Ask Price:	\$ <input type="text" value="2100.00"/> <input type="button" value="Submit"/>
BLOCK RESPONSE	
All bids to you that are higher than the block ask price will be accepted at the corresponding bid price. Other bidders for this product will receive your Block Ask Price.	
Block ASK Price:	\$ <input type="text"/> <input type="button" value="Submit"/>



Buyer Details			
Email Address:	joev@beyerlaw.com	First Name:	Joe
Company Name:	Beyer & Weaver	Job Title:	
Address (line 1):		Address (line 2):	
City:		State:	
Country (if not USA):		Phone Number:	

1200

Fig. 12

Logout	Dashboard	Account Info	Business Rules	NexTag Main
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------

NexTag Business Rules for Merchant 1

Rule Number 1			
Comment:	<input type="text" value="Price Drop Counter-Offer"/>	Email Bids to:	<input type="text" value="purnendu@nextag.com"/>
Criteria:	<input type="text" value="% Bid-List Spread"/> ▼	Max % Spread:	<input type="text" value="2.0"/> <input type="button" value="AND..."/>
Pricing Response:	<input type="text" value="Counter-Offer"/> ▼	Reduce Ask by:	<input checked="" type="radio"/> <input type="text" value="1.0"/> % of list <input type="radio"/> \$ <input type="text"/>
Text Response:	<input type="text" value="This offer good for 8 hours."/>		
<input type="button" value="New Rule"/>		Password:	<input type="text"/>
			<input type="button" value="Submit"/> <input type="button" value="Reset"/>

1300

Fig. 13A

Logout	Dashboard	Account Info	Business Rules	NexTag Main
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------

NexTag Business Rules for Merchant 1

Rule Number 1			
Comment:	<input type="text" value="Price Drop Counter-Offer"/>	Email Bids to:	<input type="text" value="pumendu@nextag.com"/>
Criteria:	<input type="text" value="% Bid-List Spread"/> ▼	Max \$ Spread:	<input type="text"/> AND...
Pricing Response:	<input type="text" value="Counter-Offer"/> ▼	Reduce Ask by:	<input checked="" type="radio"/> <input type="text" value="1.0"/> % of list <input type="radio"/> \$ <input type="text"/>
Text Response:	<input type="text" value="This offer good for 8 hours."/>		
<input type="button" value="New Rule"/>		Password:	<input type="text"/>
			<input type="button" value="Submit"/> <input type="button" value="Reset"/>

1302

Fig. 13B

Logout	Dashboard	Account Info	Business Rules	NexTag Main
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------

NexTag Business Rules for Merchant 1

Rule Number 1			
Comment:	<input type="text" value="Price Drop Counter-Offer"/>	Email Bids to:	<input type="text" value="purnendu@nextag.com"/>
Criteria:	<input type="text" value="Product Specific"/> ▼	Enter product UPC codes	<input type="text" value="AND..."/>
			▲ ▼
	◀		▶
Pricing Response:	<input type="text" value="Counter-Offer"/> ▼	Reduce Ask by:	<input checked="" type="radio"/> 1.0 % of list <input type="radio"/> \$ <input type="text"/>
Text Response:	<input type="text" value="This offer good for 8 hours."/>		
<input type="button" value="New Rule"/>		Password:	<input type="text"/>
			<input type="button" value="Submit"/> <input type="button" value="Reset"/>

1304

Fig. 13C

Logout	Dashboard	Account Info	Business Rules	NexTag Main
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------

NexTag Business Rules for Merchant 1

Rule Number 1			
Comment:	<input type="text" value="Price Drop Counter-Offer"/>	Email Bids to:	<input type="text" value="purnendu@nextag.com"/>
Criteria:	<input type="text" value="Buyer Specific"/> ▼	Enter buyer emails or domains	<input type="text" value="AND..."/>
			▲ ▼
	◀	▶	
Pricing Response:	<input type="text" value="Counter-Offer"/> ▼	Reduce Ask by:	<input checked="" type="radio"/> 1.0 % of list <input type="radio"/> \$ <input type="text"/>
Text Response:	<input type="text" value="This offer good for 8 hours."/>		
<input type="button" value="New Rule"/>		Password:	<input type="text"/>
			<input type="button" value="Submit"/> <input type="button" value="Reset"/>

1306

Fig. 13D

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

Create New Rule...Delete Current Rule...

Title:

If all of the following criteria are true

☒ In product set

Hi Inventory

▼

☒ % Bid-List Spread

>=

▼

50.0

add criteria

▼

Then do the following actions

Display text

☒

Please be serious -- your bid is less than half our list price

add action

▼

1308

Fig. 13E

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

Create New Rule...

Delete Current Rule...

Title:

If all of the following criteria are true

☒ In product set Hi Inventory ▼☒ % Bid-List Spread <= ▼ 50.0☒ % Bid-List Spread >= ▼ 10.0add criteria ▼

Then do the following actions

☒ Reduce ask by % of list 10.0

Display text

☒ We have a great deal for you -- we can offer you a 10% discountadd action ▼1310

Fig. 13F

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	-----------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

Create New Rule...

Delete Current Rule...

Title:

If all of the following criteria are true

☒ In product set

Hi Inventory

▼

☒ % Bid-List Spread

<=

▼

10.0

add criteria

▼

Then do the following actions

☒ Accept Bid

Display text

☒ You have a deal from Merchant 1 - we will sell you at your bid price

add action

▼

Fig. 13G

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

[Create New Rule...](#)[Delete Current Rule...](#)

Title:

If all of the following criteria are true

☒ # of units

Then do the following actions

☒ Reduce ask by % of list

Display text

☒ 1314

Fig. 13H

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

Create New Rule...Delete Current Rule...

Title:

If all of the following criteria are true

☒ # of units

>=

▼

10

☒ % Bid-List Spread

<=

▼

20.0

☒ Buyer Reputation

>=

▼

0

add criteria

▼

Then do the following actions

☒ Reduce ask by % of list

6.0

Display text

☒

We can offer you a 6% volume discount

add action

▼

1316

Fig. 13I

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

Create New Rule...

Delete Current Rule...

Title:

If all of the following criteria are true

add criteria

▼

Then do the following actions

add action

▼

Fig. 13J

Logout	Dashboard	Account Info	Business Rules	NexTag Main	Help
------------------------	---------------------------	------------------------------	--------------------------------	-----------------------------	----------------------

NexTag Business Rules for Merchant 1

Current Business Rules:

Create New Rule...

Delete Current Rule...

Title:

If all of the following criteria are true

☒

Buyer Reputation

>=

▼

20

☒

of units

>=

▼

10

add criteria

▼

Then do the following actions

☒

Reduce ask by % of list

10

Display text

☒

Because of your excellent reputation we are able to offer you a 10% volume discount.

add action

▼

Fig. 13K

Logout	Dashboard Edit this View	Account Info	Business Rules	NexTag Main
------------------------	---	------------------------------	--------------------------------	-----------------------------

NexTag Merchant Main: super for Merchant 1

Bids to Display:				Sorting Order			
By Bid Type:	By Bid-List Spread			Primary	Secondary		
All Bids ▼	Max \$: <input type="text"/> <input type="button" value="OK"/>	Max % <input type="text"/> ▼		Buyer ▼	<input type="text"/> ▼		
Product	Buyer Id	Units	Your List	Your Ask	Bid to You	Min Bid	Max Bid
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	187		\$2198.99	\$2198.99			
PALM III CONNECTED ORGANIZER PALMPILOT	148	5	\$269.00			\$305.00	\$305.00
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	147	1	\$2198.99	\$2100.00	\$2000.00	\$2000.00	\$2000.00
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	147	1				\$2100.00	\$2100.00
THINKPAD 600E P2 300PE 4.0GB 32MB 13.3 TFT 24X WIN 98/95	147	1	\$2999.00			\$2500.00	\$2500.00
THINKPAD 600 P2-266 4.0GB 32MB 13.3 TFT 24X WIN 95	147	1	\$2798.99	\$2798.99	\$2600.00	\$2600.00	\$2600.00
OMNIBOOK 2100 P2-233 4.0GB-HD 32MB 12.1 TFT 24X WIN 95 NO PP	128		\$1998.99	\$1998.99			
OMNIBOOK 2100 P2-266 4.0GB-HD 32MB 12.1 TFT 24X WIN 95 NO PP/R	128		\$2398.99	\$2398.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	127		\$2198.99	\$2198.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	109		\$2198.99	\$2198.99			
BACKOFFICE SMALL BUSINESS SRV WIN-NT W/OFFICE PRO 5 CLIENT	109	10	\$3350.00			\$2800.00	\$2800.00
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	108		\$2198.99	\$2198.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	107						
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	88		\$2198.99	\$2198.99			
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	87		\$2198.99	\$2198.99			
PALM III CONNECTED ORGANIZER	67	1	\$269.00	\$269.00	\$265.00	\$265.00	\$265.00

Pages: 1 2 3

1100

Fig. 14

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info	Help
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Joe's Dashboard:

Step 1. Multi-merchant Product search - to identify alternatives for your Shopping List item.

Product type [Advanced Search](#)

Keyword (s):

Step 2. Use Existing Shopping list or create a new one by clicking "New"

SHOPPING LIST

SHOPPING LIST FOR my list

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 ☐ TFT 24X WIN 95

Merchant	List Price	Ask Price		Bid Price		
Merchant 1	\$2198.99	\$2100.00	<input type="button" value="Buy"/>	\$ <input type="text" value="2000.0"/>	<input type="button" value="Bid"/>	<input type="button" value="Comment"/> <input type="checkbox"/>

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 ☐ TFT 24X WIN 95

Merchant	List Price	Ask Price		Bid Price		
Merchant 4	\$2248.00	\$2248.00	<input type="button" value="Buy"/>	\$ <input type="text" value="2100.0"/>	<input type="button" value="Bid"/>	<input type="button" value="Comment"/> <input type="checkbox"/>

IBM THINKPAD 600E P2 300PE 4.0GB 32MB Units: 1 ☐ 13.3 TFT 24X WIN 98/95

Merchant	List Price	Ask Price		Bid Price		
Merchant 6	\$2732.36	\$2732.36	<input type="button" value="Buy"/>	\$ <input type="text" value="2500.0"/>	<input type="button" value="Bid"/>	<input type="button" value="Comment"/> <input type="checkbox"/>

IBM THINKPAD 600 P2-266 4.0GB 32MB 13.3 Units: 1 ☐ TFT 24X WIN95

Merchant	List Price	Ask Price		Bid Price		
Merchant 1	\$2798.99	\$2798.99	<input type="button" value="Buy"/>	\$ <input type="text" value="2600.0"/>	<input type="button" value="Bid"/>	<input type="button" value="Comment"/> <input type="checkbox"/>

Share your lists with friends family or co-workers - get their opinions for you purchase

Email this table to:

Beta evaluators, please email your feedback to beta@nextag.com

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info	Help
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Joe's Dashboard:

Step 1. Multi-merchant Product search - to identify alternatives for your Shopping List item.

Product type [Advanced Search](#)

Keyword (s):

Step 2. Use Existing Shopping list or create a new one by clicking "New"

SHOPPING LIST

SHOPPING LIST FOR my list

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 ☒
TFT 24X WIN 95

Merchant	List Price	Ask Price		Bid Price		
Merchant 1	\$2198.99	\$2100.00	<input type="button" value="Buy"/>	\$ <input type="text" value="2050.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 ☒
TFT 24X WIN 95

Merchant	List Price	Ask Price		Bid Price		
Merchant 4	\$2248.00	\$2248.00	<input type="button" value="Buy"/>	\$ <input type="text" value="2100.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

IBM THINKPAD 600E P2 300PE 4.0GB 32MB Units: 1 ☒
13.3 TFT 24X WIN 98/95

Merchant	List Price	Ask Price		Bid Price		
Merchant 6	\$2732.36	\$2732.36	<input type="button" value="Buy"/>	\$ <input type="text" value="2500.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

IBM THINKPAD 600 P2-266 4.0GB 32MB 13.3 Units: 1 ☒
TFT 24X WIN95

Merchant	List Price	Ask Price		Bid Price		
Merchant 1	\$2798.99	\$2798.99	<input type="button" value="Buy"/>	\$ <input type="text" value="2600.0"/> <input type="button" value="Bid"/>	<input type="button" value="Comment"/>	<input checked="" type="checkbox"/>

Share your lists with friends family or co-workers - get their opinions for you purchase

Email this table to:

Beta evaluators, please email your feedback to beta@nextag.com

Logout	Dashboard	Account Info	Business Rules	NexTag Main
	Trading Screen			

NexTag Trading Screen for Merchant 1

Product	Manufacturer	Manuf. Part#	List Price	Ask Price	Buyer Email	Bid Price
THINKPAD 600 P2-233 3.2GB 32MB 12.1 TFT 24X WIN 95	IBM	264535u	\$2198.99	\$2100.00	joev@beyerlaw.com	\$2050.00

BID-SPECIFIC RESPONSE

You have two options for this bid:

1. Accept the Buyer's Bid Price:	<input type="button" value="Accept Bid Price"/>
2. Change your Ask Price:	\$ <input type="text"/> <input type="button" value="Submit"/>

BLOCK RESPONSE

All bids to you that are higher than the block ask price will be accepted at the corresponding bid price. Other bidders for this product will receive your Block Ask Price.

Block ASK Price:	\$ <input type="text"/> <input type="button" value="Submit"/>
------------------	---

Buyer Details			
Email Address:	joev@beyerlaw.com	First Name:	Joe
Company Name:	Beyer & Weaver	Job Title:	
Address (line 1):		Address (line 2):	
City:		State:	
Country (if not USA):		Phone Number:	

Logout	NexTag Main	Merchant	Account Info	FAQ	Company Info	Help
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Joe's Dashboard:

Step 1. Multi-merchant Product search - to identify alternatives for your Shopping List item.

Product type

ANY

[Advanced Search](#)

Keyword (s):

 Go

Step 2. Use Existing Shopping list or create a new one by clicking "New"

SHOPPING LIST

my list

[Edit](#)[New List](#)

SHOPPING LIST FOR my list

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 [Comment](#) ☒
TFT 24X WIN 95

Merchant	List Price	Ask Price	Purchase Date	activate	
Merchant 1	\$2198.99	\$2050.00	1999-02-15	Comment	<input checked="" type="checkbox"/>

IBM THINKPAD 600 P2-233 3.2GB 32MB 12.1 Units: 1 [Comment](#) ☒
TFT 24X WIN 95

Merchant	List Price	Ask Price	Purchase Date	activate	
Merchant 4	\$2248.00	\$2248.00		Comment	<input checked="" type="checkbox"/>

IBM THINKPAD 600E P2 300PE 4.0GB 32MB Units: 1 [Comment](#) ☒
13.3 TFT 24X WIN 98/95

Merchant	List Price	Ask Price	Purchase Date	activate	
Merchant 6	\$2732.36	\$2732.36		Comment	<input checked="" type="checkbox"/>

IBM THINKPAD 600 P2-266 4.0GB 32MB 13.3 Units: 1 [Comment](#) ☒
TFT 24X WIN95

Merchant	List Price	Ask Price	Purchase Date	activate	
Merchant 1	\$2798.99	\$2798.99		Comment	<input checked="" type="checkbox"/>

Share your lists with friends family or co-workers - get their opinions for you purchase

Email this table to:

 [Send](#)

Beta evaluators, please email your feedback to beta@nextag.com

1

**METHODS AND APPARATUS FOR
BROKERING TRANSACTIONS**

This is a Divisional application of copending prior application Ser. No. 09/265,511 filed on Mar. 9, 1999, which is based upon Provisional Application No. 60/117,118 filed on Jan. 25, 1999, the disclosures of which are incorporated herein by reference.

RELATED APPLICATION DATA

The present application claims priority from U.S. Provisional Application No. 60/117,118 filed on Jan. 25, 1999, the entirety of which is incorporated by reference herein for all purposes.

BACKGROUND OF THE INVENTION

The present invention relates to electronic commerce via the Internet. More specifically, the present invention relates to the facilitation of transactions between buyers and sellers on the World Wide Web.

Electronic commerce on the Internet, and specifically the World Wide Web, promises to transform the economic landscape in ways which have not yet been contemplated. Consumers and corporate buyers already have online access to a staggering variety of goods and services from a wide range of merchants and service providers. They may electronically search through vast inventories to easily and conveniently find products to fit their needs, often at a significant savings over traditional commerce. They may also initiate and complete transactions online simply by identifying a product and submitting a payment identifier such as a credit card or purchasing account to the appropriate web site.

Electronic commerce also offers a number of advantages to the merchant or service provider. Offering products online avoids all of the overhead associated with operating retail or wholesale locations. In addition, online sellers do not need to anticipate the inventory needs of a number of different geographic locations. In fact, inventory may be centralized and precisely and automatically monitored and adjusted according to transaction data which are gathered virtually instantaneously. Moreover, the World Wide Web has the potential for making a particular seller's goods or services available to anyone, any time, anywhere on the planet. The cost savings and the market access associated with these advantages combine to give online sellers a significant competitive edge over their more traditional counterparts.

Given the obvious potential of electronic commerce and the rapidly increasing traffic at web sites engaging in electronic commerce, it's no surprise that there is a demand for technical solutions by which electronic commerce transactions may be facilitated and made more efficient. Such solutions range from increasing the speed and efficiency with which data are transferred over the Internet to improving search engine capabilities to creating more user-friendly interfaces. Unfortunately, all of the solutions presented to date have not been able to reproduce an important part of traditional commerce and its attendant advantages for both sellers and buyers. That is, none of today's electronic commerce solutions allows for the give and take of a traditional negotiation between individual sellers and buyers.

An example of one solution for facilitating transactions between a buyer and one or more sellers is described in U.S. Pat. No. 5,794,207 for METHOD AND APPARATUS FOR CRYPTOGRAPHICALLY ASSISTED COMMERCIAL

2

**NETWORK SYSTEM DESIGNED TO FACILITATE
BUYER-DRIVEN CONDITIONAL PURCHASE OFFER**
issued on Aug. 1, 1998, the entirety of which is incorporated herein by reference for all purposes. In that patent, a system is described by which a prospective buyer communicates a binding purchase offer globally to a plurality of sellers. The offer is made binding by requiring the buyer to submit a payment identifier such as, for example, a credit card. Any of the potential sellers may then bind the buyer by accepting the offer.

It is clear that such a solution does not resemble a traditional negotiation. In traditional situations, a prospective buyer can make a conditional offer which may be countered by the seller which may again be countered by the buyer. Traditionally, neither party is bound until both agree upon a price. In this way, the exact price may be identified at which a transaction could proceed as between the two specific parties. It will be understood that the ability to identify this price for any two parties in an efficient manner would be of potentially great value to both buyers and sellers. That is, buyers would be getting the product they want for the price they are willing to pay, while sellers would be effecting a greater number of sales due to their ability to engage in price discrimination.

There are, however, some attendant disadvantages associated with allowing buyers to submit non-bidding bids. For example, if there are no consequences to the buyer for submitting a bid, many bids may be submitted by a single buyer or a small group of buyers solely for the purpose of manipulating the market for a particular product. Moreover, resources may be wasted by a seller in pursuing a proliferation of non-serious bids. As discussed above, one solution is to require that a buyer submit a credit card number before he may submit a bid, and further to assess some financial penalty against the buyer's credit card if the buyer abandons the negotiation. Unfortunately, this may serve as a barrier to entry for many buyers in that they are much less likely to conduct simultaneous negotiations with a number of merchants under these conditions.

It is therefore desirable to provide an electronic commerce solution by which individual buyers may negotiate online in a traditional and non-bidding manner with one or more sellers.

SUMMARY OF THE INVENTION

According to the present invention, an electronic commerce solution is provided for facilitating online transactions which allows traditional negotiation between a buyer and a seller to occur. According to a specific embodiment, a web site is provided having individual private graphical user interfaces, e.g., web pages, for buyers and sellers. A buyer gains access to his private interface with a user ID and password. The buyer's interface allows him to search a proprietary database for current product information for a variety of products being offered for sale by a number of sellers. The product information includes, for example, the name of the seller and an ask price and/or a list price for the product as specified by the seller. The buyer may save the product information for any products in which he is interested to one or more shopping lists which become part of his interface.

According to a specific embodiment, the buyer may share his shopping list(s) with friends or co-workers to solicit feedback on the various products, sellers, ask prices, etc. The shopping list may be sent in an e-mail as, for example, an HTML table in which the addressee may insert his com-

ments. Alternatively, persons from whom feedback is desired may be notified by e-mail and given access to the buyer's shopping list on the web site itself. In this way, a buyer may solicit advice or approval before initiating a transaction.

For each product saved in the shopping list a bid button is provided, activation of which causes a bid interface to be presented by which the buyer may submit a non-binding bid to the seller of that particular product. Alternatively, the bid interface may be in the shopping list itself. According to a specific embodiment, the bid is made available to a number of different sellers offering the same product. The sellers are "different" in that they include a large number of independent economic entities. This is to be distinguished from other sites in which the "sellers" are all just representatives of a single economic entity. Making the bids available to different economic entities increases the likelihood that at least one of them can offer a price acceptable to the buyer. Using the shopping list, the buyer may make a number of bids for the same or different products to a number of different sellers simultaneously.

According to a specific embodiment of the invention, even though the buyer's bids are non-binding, there is nevertheless a consequence for submitting frivolous bids. That is, the transaction site of the present invention may be configured to track a buyer's "reputation" by tracking the buyer's transaction behavior. For example, the number of bids submitted by a particular buyer could be related to the number of bids honored or reneged upon by that buyer, and an objective value could be generated therefrom indicative of the buyer's "reputation." According to a specific embodiment, the metric is simply the number of offers honored less the number reneged, a large positive value representing a "good" reputation and a large negative value representing a "bad" one. According to another embodiment, the metric is based on the number of times a buyer honors acceptance of his bids. According to yet another embodiment, the metric is based on the percentage of the buyers bids which are eventually consummated. It will be understood that a variety of data could be used to generate a metric indicative of a buyer's transaction behavior and that the present invention is not limited to the few examples described here.

Each buyer's reputation is made available to sellers on the site for use as they see fit. For example, a seller could choose to respond only to bids from buyers who have a reputation which is of a certain level. Alternatively, a seller could choose to respond unfavorably to such buyers, thus giving the buyer immediate feedback and incentive to adjust her bid accordingly. In addition, a seller could give preferential treatment, e.g., discounts, to buyers with very good reputations. Thus, buyers would tend to conduct transactions in a responsible manner to protect their reputations from being damaged and to receive preferential treatment. This approach has many of the advantages of requiring a credit card or other payment identifier without presenting a significant barrier to entry and without making simultaneous negotiation impracticable.

Each seller having products in the proprietary database also has access to a private interface on the web site with which an authorized representative of the seller may have access to all of the currently outstanding bids to that seller for any of the products offered by the seller. According to a specific embodiment, bids to other sellers for products offered by the seller are also available on the seller's private interface. The seller may respond manually to any of the posted bids or, alternatively, the seller may specify a set of

business rules according to which automated responses to the posted bids are generated. The response to a bid may be an acceptance of the bid or a counteroffer.

According to various embodiments, market information is displayed along with the list of current bids to help the seller with responding to any or all of the bids, i.e., decision-making support. In one embodiment, demand data are graphically presented, i.e., in a demand curve, representing bids for a particular product to either the particular seller, or a number of different sellers. The seller (or the business rules specified by the seller) can then use the demand data to develop a strategy for responding to one or more bids. For example, a seller can determine how much to temporarily lower an ask price to effect a block deal.

Any bid responses from any sellers show up in the buyer's private interface. According to one embodiment, the responses show up in the shopping list juxtaposed with the original ask price, i.e., the list price, and the buyer's bid. If the seller's response is an acceptance of the buyer's bid, the buyer is enabled to complete the transaction if he so chooses. According to a particular embodiment, this is accomplished by means of an HTML link to the seller's web site. Alternatively, the transaction site can make the buyer's payment and shipping information available to the seller. If, on the other hand, the seller's response is a counteroffer, the buyer may continue the negotiation in the manner described above until a mutually acceptable price is reached, or until the buyer or the seller terminates the negotiation.

As alluded to above, the buyer may conduct a number of simultaneous negotiations with different sellers for the same product or even multiple products. Therefore, according to a specific embodiment, a mechanism is provided by which negotiations with a number of sellers may be automatically terminated when the buyer reaches an agreement with any one seller. That is, the buyer may create a mutually exclusive group with which a plurality of outstanding bids and/or quote solicitations are associated. According to specific embodiments, the buyer creates a mutually exclusive group by designating one of his shopping lists as such a group. When an agreement is reached on any one of the bids or quote solicitations, all other negotiations for the products in the group are automatically terminated. According to various embodiments, such a mutually exclusive group can correspond to a variety of product-seller combinations. That is, a mutually exclusive group can identify one product and multiple sellers, multiple products and multiple sellers, multiple products and one seller, etc. This feature allows a buyer to place a number of simultaneous bids even though he intends to make only a single purchase.

Thus, the present invention provides methods and apparatus for facilitating a transaction between a buyer and one of a plurality of sellers via the Internet. Product information relating to a plurality of products meeting product criteria specified by the buyer is presented via the Internet. One of the plurality of sellers is associated with each of the products. A first bid from the buyer for a first one of the plurality of products is made available via the Internet to a first seller associated with the first product. A first bid response is presented via the Internet to the buyer. According to one embodiment, the first bid response is automatically presented according to response criteria specified by the first seller. Alternatively, the first bid response is presented according to a manually entered communication received from a representative of the first seller. Where the first bid response is an acceptance of the first bid, consummation of the transaction is facilitated. Where the first bid response is a counteroffer, further negotiation via the Internet between the buyer and the first seller is enabled.

According to other specific embodiments, methods and apparatus are provided for facilitating a transaction between a buyer and one of a plurality of sellers via the Internet. The buyer is enabled to negotiate substantially simultaneously with the plurality of sellers via the Internet. When an agreement is reached between the buyer and a first one of the plurality of sellers, negotiations between the buyer and others of the plurality of sellers are automatically terminated.

According to still other embodiments, methods and apparatus are provided for facilitating transactions via the Internet. Market information is made available to a seller via the Internet. The market information relates to a plurality of bids from a plurality of buyers. The seller is enabled to effect transactions via the Internet with a subset of the plurality of buyers based on the market information.

According to still further embodiments, methods and apparatus are provided for facilitating transactions via the Internet. A list of entities is received from a first entity via the Internet. A plurality of Internet transactions are monitored to determine when any of the entities on the list engages in one of the plurality of transactions. For each one of the plurality of transactions in which one of the entities engages, an economic benefit is automatically accrued to the first entity.

According to additional embodiments, methods and apparatus are provided for facilitating transactions between a buyer and a plurality of sellers via the Internet. Product information relating to a plurality of products meeting product criteria specified by the buyer is provided via the Internet. One of the plurality of sellers being associated with each of the products. In response to selection of one of the plurality of products by the buyer, the product information corresponding to the selected product is saved to a shopping list associated with the buyer. The shopping list enables the buyer to subsequently negotiate with selected ones of the plurality of sellers for selected ones of the plurality of products for which the product information has been saved.

According to other specific embodiments, methods and apparatus for facilitating a transaction between a buyer and at least one of a plurality of sellers via the Internet are provided. A plurality of conditional purchase offers from the buyer to a subset of the plurality of sellers is received. Each of the plurality of conditional purchase offers includes an offer price from the buyer. The plurality of conditional purchase offers are transmitted to the subset of the plurality of sellers after receiving a payment identifier. An acceptance responsive to one of the plurality of conditional purchase offers is received from a first one of the plurality of sellers. Negotiations between the buyer and others of the subset of plurality of sellers are automatically terminated in response to the acceptance in accordance with a mutually exclusive group defined by the buyer. A payment is then provided to the first seller using the payment identifier.

According to still other embodiments, a method for facilitating a transaction between a buyer and at least one of a plurality of sellers via the Internet is provided. Product information relating to a plurality of products meeting product criteria specified by the buyer is presented via the Internet. One of the plurality of sellers being associated with each of the products. In response to selection of one of the plurality of products by the buyer, the product information corresponding to the selected product is saved to a shopping list associated with the buyer. The shopping list enables the buyer to subsequently negotiate with selected ones of the plurality of sellers for selected ones of the plurality of

products for which the product information has been saved. At least one conditional purchase offer from the buyer to a subset of the plurality of sellers is received. The at least one conditional purchase offer includes an offer price from the buyer. The at least one conditional purchase offer is transmitted to the subset of the plurality of sellers after receiving a payment identifier. An acceptance is received from a first one of the plurality of sellers. The acceptance is responsive to the at least one conditional purchase offer. A payment is provided to the first seller using the payment identifier.

Yet other embodiments of the present invention provide methods and apparatus for facilitating a transaction between a buyer and one of a plurality of sellers via the Internet. A request for quotes for a first product is presented to the plurality of sellers via the Internet. At least one response to the request for quotes is presented to the buyer from at least one of the plurality of sellers. Negotiation between the buyer and the at least one of the plurality of sellers is facilitated via the Internet. According to specific embodiments, the buyer is able to designate products in her shopping list for which postings are requests for quotes and products for which postings are conventional bids.

According to other embodiments, methods and apparatus for facilitating a transaction between a buyer and a first one of a plurality of sellers via the Internet are provided. A plurality of bids from the buyer for a plurality of different products are presented to the first seller. A bundle response from the first seller is presented to the buyer. The bundle response is for a subset of the plurality of different products, and is contingent upon purchase of all of the subset of the plurality of different products.

Methods and apparatus are also described herein for tracking transaction statistics on a transaction site on the Internet. According to these embodiments, transaction data are compiled for a buyer relating to at least one product purchased by the buyer via the transaction site. In one embodiment, the transaction data are presented to the buyer in response to a request from the buyer. According to a second embodiment, the transaction data are associated with market data regarding a current value for the at least one product. The market and transaction data are then presented to the buyer. According to a third embodiment, the transaction data are associated with product data representing at least one related product. Purchase of the at least one related product by the buyer is facilitated.

Further embodiments describe methods and apparatus for tracking transaction statistics on a transaction site on the Internet. Transaction data relating to at least one product are compiled for transactions between a plurality of buyers and sellers via the transaction site. At least one option price relating to the at least one product is determined based on the transaction data. Trading of options relating to the at least one product is facilitated based on the at least one option price. It should be noted that the transaction prices of the present invention may be analogized to stock prices in financial markets. Thus, according to the invention, transaction prices may be used to facilitate the trading of options in a manner similar to the trading of options in financial markets.

According to still further embodiments, methods and apparatus are provided for presenting information via a transaction site on the Internet to a seller regarding a plurality of bids from a plurality of buyers for a plurality of products. A list of the plurality of bids is presented to the seller. Each of the bids identifies an associated buyer and an associated product. In response to selection by the seller of

a first product in the list, market information is presented to the seller representing a subset of the plurality of bids, each bid in the subset corresponding to the first product. Alternatively, in response to selection by the seller of a first buyer in the list, a subset of the plurality of bids is presented to the seller, each bid in the subset corresponding to the first buyer. According to a more specific embodiment, a bundle response from the seller is presented to the first buyer. The bundle response is contingent upon purchase of all of a subset of the plurality of products which correspond to the subset of the plurality of bids.

Methods and apparatus are also described for providing a transaction site on the Internet for listing products for sale in which both individuals and corporate entities are represented as sellers. During creation of a first product listing for a first individual, the first individual is asked whether he or she wants the first product listing posted to at least one remote site. Upon receiving an affirmative response from the first individual, the first product listing is posted to the at least one remote site. According to specific embodiments, such remote sites could include Usenet and/or free classified sites.

According to various embodiments, methods and apparatus are provided for facilitating transactions between a plurality of buyers and a plurality of sellers via a transaction site on the Internet. For each of a plurality of actions performed by a first one of the plurality of buyers via the transaction site, an account associated with the first buyer is credited with a corresponding economic benefit. The account is maintained at the transaction site. According to a specific embodiment, the economic benefits accrued in the account are useable by the buyer only in relation to transactions facilitated via the transaction site. According to another embodiment, the economic benefit could be cash or some other form of fungible credit.

Still other methods and apparatus are provided for facilitating transactions between a seller and a plurality of buyers via a transaction site on the Internet. Market information is made available to the seller via the Internet. The market information relates to a plurality of bids from the plurality of buyers for a particular product. An ask price presented to each of the plurality of buyers via the Internet is temporarily lowered in accordance with the market information to induce either acceptance by or further negotiation with each of the plurality of buyers.

Further methods and apparatus are provided for facilitating transactions between a seller and a plurality of buyers via a transaction site on the Internet. A plurality of bids from the plurality of buyers is made available to the seller via the Internet. Automatic responses to selected ones of the plurality of bids are made via the Internet according to response criteria previously specified by the seller. According to various embodiments, the response criteria comprise a plurality of independent rules which may be combined in a plurality of ways to effect responses to the bids. Information corresponding to the response criteria may be stored at the transaction site and/or at a second site remote from the transaction site, access to which is controlled by the seller.

According to further embodiments, methods and apparatus are provided for facilitating a process in a graphical user interface. An active object is presented in the graphical user interface, selection of which initiates the process. In response to selection of the active object, the active object is converted to a display object indicating completion of the process.

According to various embodiments of the invention, graphical user interfaces are provided for facilitating a

variety of functions. According to one embodiment, a graphical user interface is provided for facilitating transactions for a seller via the Internet. The graphical user interface includes a plurality of bids from a plurality of buyers and market information derived at least in part from the plurality of bids.

According to another embodiment, a graphical user interface is provided for facilitating transactions for a buyer via the Internet. The graphical user interface comprises a shopping list for storing product information relating to a plurality of products which meet product criteria specified by the buyer. The shopping list includes objects therein for enabling the buyer to negotiate with any of a plurality of sellers for selected ones of the plurality of products. It also allows buyers to add comments for any product or seller represented in the list. According to various embodiments, each shopping list associated with the buyer may contain an unlimited number of products or sellers. Shopping lists may also include mechanisms by which buyers may indicate whether the items in the list are independent or part of a mutually exclusive group. Buyers may also indicate that they want to solicit offers from sellers for any item/seller which is added to the list.

According to yet another embodiment, a graphical user interface element is provided which is an active object, selection of which initiates a process. The active object is converted to a display object indicating completion of the process in response to selection of the active object.

A further understanding of the nature and advantages of the present invention may be realized by reference to the remaining portions of the specification and the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a hardware environment in which the various embodiments of the present invention may be implemented;

FIG. 2 is a flowchart illustrating facilitation of a transaction according to a specific embodiment of the invention;

FIG. 2a is a flowchart illustrating a negotiation between a buyer and a seller according to a specific embodiment of the invention; and

FIGS. 3-18 are a series of graphical user interfaces illustrating the operation of a specific embodiment of the invention.

DESCRIPTION OF SPECIFIC EMBODIMENTS

FIG. 1 is a block diagram of a hardware environment in which the various embodiments of the present invention may be implemented. The web site at which transactions between buyers and sellers are facilitated according to the invention is located on a server 102 which is connected by a router 104 to the Internet 106. Sellers (represented by servers 108) are connected to the Internet via routers 110. Seller servers 108 may have networks 112 associated therewith interconnecting a plurality of personal computers or work stations 114. Buyers (represented by computers 122 and 124) may be connected to the Internet in a variety of ways. For example, a buyer may be connected from his home via a modem 126, or from his workplace via a network 120, a file server 116, and a router 118. It will be understood that, according to various embodiments of the invention, buyers and sellers may gain access to the web site on server 102 via a variety of hardware configurations. For example, a seller may be an individual on his home computer 124. Similarly, a buyer may be an employee may be at

his computer **114** at a corporation which is also a seller. It will also be understood that the hardware environment of FIG. **1** is shown for illustrative purposes and that a wide variety of hardware environments may be employed to implement the various embodiments of the present invention. It should also be understood that specific embodiments of the methods and processes described herein are implemented as computer program instructions, i.e., software, in the memory of server **102**.

The operation of a specific embodiment of the invention will now be described with reference to FIGS. **2–18**. FIG. **2** is a flowchart **200** illustrating facilitation of a transaction according to a specific embodiment of the invention. FIG. **2a** is a flowchart illustrating a multi-step negotiation between a buyer and a seller (see **214** of FIG. **2**) according to a more specific embodiment of the invention. FIGS. **3–18** are a series of graphical user interfaces which will be used to illustrate the transaction process of FIGS. **2** and **2a**.

Initially, a buyer logs on to the transaction facilitation system of the present invention (**202**) via login interface **300** of FIG. **3**. This results in presentation of a personalized private interface **400** to the buyer in which the buyer may initiate a search for a particular product (**204**). According to various embodiments, a buyer need not log on to the site before initiating a search. That is, searching may be initiated by individuals who are not members of the transaction site. According to such embodiments, logging in is only required for bidding, negotiating, transacting, etc. To focus the search, the buyer may specify the product type as, for example, a laptop computer as shown in interface **400** of FIG. **4**. The buyer may further specify the type of laptop (e.g., ThinkPad® 600) to varying degrees of specificity in the Keyword(s) window. More advanced searching options are also available for more skilled users and more focused searches in which a variety of product criteria may be specified.

When the buyer finishes specifying the product and clicks on “Go,” a search of a proprietary database is initiated in response to which relevant product information is presented in the form of a list of products as shown in interface **500** of FIG. **5**. Each entry in the list includes the manufacturer, specific product information, and a product price (e.g., the “Lowest Price” column which displays the lowest list price from among the sellers selling the specific product via the transaction site). It should be noted that the term “ask price” as used herein encompasses any price for which a merchant is offering a product for sale including, for example, the list price and subsequent counteroffer prices. The term “list price” is used herein in its conventional sense in that it generally refers to an original price associated by the merchant with a product. As mentioned above, and according to a specific embodiment of the invention, when the list of products shown in interface **500** is initially presented, the price shown for each entry is the lowest list price for the product from among the sellers selling through the transaction site.

Also included with each entry is a “Save” button by which the buyer may save any of the list entries to any of his personal shopping lists (described below) from which transactions may be initiated. Alternatively, transactions may be initiated directly from the search results list. As shown in FIG. **6**, when any of the active “Save” buttons in the product information list of interface **500** are activated, i.e., the buyer clicks on them, the associated product information is saved to the buyer’s currently selected shopping list (**206**) and the active “Save” button becomes a display object indicating that the associated item has been saved. Additional infor-

mation about any of the products in the list of interface **500** may be obtained by clicking on the HTML text describing the product. According to a specific embodiment, creation of such a shopping list may be accomplished without logging in to the transaction site. However, the entries in such a list are not permanently saved and transactions may not commence until the user logs in.

According to various embodiments, a buyer can create and simultaneously maintain as many shopping lists as desired. Moreover, for each shopping list created, the buyer may specify a variety of attributes which affect the way in which each shopping list is used to facilitate transactions. For example, the buyer may specify whether the entries of a particular shopping list are independent of each other or whether they form a mutually exclusive group as described herein. If the buyer specifies that the entries are independent, then the bids and deals associated with any one entry have no effect on ongoing negotiations for other items in the list. In addition, the buyer may specify whether a particular item will automatically solicit quotes from a plurality of sellers once a corresponding entry is added to one of the buyer’s shopping lists. The buyer may also customize each shopping list by, for example, giving each list a meaningful name, or by associating comments with each.

Interface **500** also includes an advanced search interface in which specific parameters associated with the specified product type may be specified. In the example shown, for the product type “Laptop” the processor, the display size, and the speed may be specified to further refine the search.

The shopping list to which the buyer saves selected portions of the product information is shown in interface **700** of FIG. **7**. The shopping list includes the information from the search results list of interface **500**. In addition, a “Comments” feature is provided which allows the buyer or other individuals authorized by the buyer to insert personal comments regarding each specific product or merchant. Such comments could include full text messages or, for example, product or merchant ratings. Insertion of comments by the buyer is effected by activation of a “Comments” button in each shopping list entry. This results in presentation of window (not shown) in which new comments may be entered or old comments edited.

Insertion of comments by other individuals may be accomplished in different ways according to various embodiments of the invention. According to one embodiment, the buyer may e-mail an HTML page including the shopping list to one or more individuals in a reviewer network to solicit comments (**208**). The individuals receiving the shopping list may view the page using their Internet browser and, through an HTML link in the page, access the transaction web site as a user authorized to add comments to the buyer’s shopping list. As discussed above, these comments may be full text messages regarding anything relevant to the listed product or merchant. Comments may also take the form of a rating of the product or merchant according to a scale automatically provided to the reviewers in the reviewer network. According to specific embodiments, the system of the present invention automatically compiles ratings from the buyer and reviewers to create indices which may be used for decision making.

Alternatively, the reviewer may insert comments into the HTML page and e-mail it back to the web site for automatic entry into the buyer’s shopping list. According to another embodiment, the buyer gives permission for others in his reviewer network to review one or more of his shopping lists by specifying a plurality of e-mail addresses for each

shopping list. The buyer may then exchange comments about various products and merchants via an interface on the web site with his reviewers and others who have been authorized to review by that buyer.

Activation of the HTML text describing a product entry in the shopping list of interface **700** results in presentation of an interface **800** (FIG. 8) which provides information about all merchants offering the particular product for sale through the transaction site. The first entry in the list corresponds to the shopping list entry selected in interface **700**. Any of the entries in interface **800** may be saved to the original shopping list of interface **700** by activation of the associated Save button.

As can be seen, the buyer may submit an individual bid to a particular seller for the listed product (**210**) by entering the bid amount in the Bid column and activating the associated Bid button. According to specific embodiments, password verification is requested when the Bid button is activated to ensure that the bid is authentic and authorized. The buyer may accept the seller's current ask price (which may or may not be the same as the list price) by activation of a button indicating "Buy." According to various embodiments, password verification is also required prior to sending such a response to the buyer. Bids for varying amounts may be submitted to different merchants as shown in expanded shopping list interface **900** of FIG. 9. The individual bids submitted via interfaces **800** and **900** are shown in the shopping list in an updateable and interactive column entitled "Bid Price." It should be noted that implementation of the present invention does not require that password verification be employed for every transaction. That is, such password verification may only be required for some actions such as, for example, initially logging into the system.

Also included in interface **900** is a column entitled "Comments" by which direct messaging between the buyer and the seller may be effected. As part of the bid submitted to the seller, the buyer may include full text messages through activation of the associated "Comments" button. The buyer may also indicate a length of time for which the associated bid is good, i.e., an expiration time. Alternatively, a buyer could indicate that the bid is "good to cancel," i.e., that the bid is valid until cancelled by the buyer. As another alternative, the bid could be specified by the buyer as a "fill or kill" bid, i.e., only responses for the exact product and quantity requested will be entertained. In one embodiment, these bid parameters are implemented using a column next to the bid price (not shown) where the user indicates the life of the bid. It should be noted, however, that a variety of mechanisms may be used without departing from the scope of the invention. According to various alternate embodiments, the shopping list includes other mechanisms by which these parameters may be specified and communicated to sellers. According to specific ones of these, the mechanisms by which such bid attributes are communicated are such that they are recognized by the automatic response algorithms employed by sellers on the transaction site.

The seller may respond to the messages with full text messages of its own. This allows both parties to the negotiation to move forward with more specific information. According to a specific embodiment, the seller may input such messages via its own interface as described below. According to another specific embodiment, the seller's comments are presented to the buyer in a window which appears upon activation of the "Comments" button of interface **900** along with comments from any reviewers in the buyer's reviewer network. The seller's comments could also appear

in conjunction with a response generated either by the seller, its representative, or a program active on behalf of the seller.

Submitted bids which do not constitute acceptances of the sellers "Ask Price" (**212**) are made available to individual merchants along with quote solicitations via another set of interfaces on the transaction web site. From this point, a multi-step negotiation between the buyer and each seller may commence (**214**). The details of such a negotiation will be described with reference to FIG. 2a. When a representative of a member merchant logs in to the transaction web site using interface **1000** of FIG. 10, currently outstanding bids and/or quote solicitations are listed according to a filter or filters specified by the merchant (see interface **1100** of FIG. 11). For example, the merchant may elect to view bids to all merchants, to a particular subset of merchants, or only bids to that particular merchant. The merchant may also filter the list to show only bids or quote solicitations for certain products. The merchant may also specify that only bids within a certain percentage or dollar value spread be listed. In this example, the bids are sorted according to a buyer identification number shown in the "Buyer Id" column, the bids submitted by the buyer of interface **900** corresponding to buyer **147**. In general, the merchant or its representative may use a variety of filters in combination to generate a list of particular product-buyer combinations which are currently open. It should be noted that the entries in interface **1100** may also include items saved in buyers' shopping lists for which bids or quote solicitations have not yet been submitted.

Once the seller selects a product in interface **1100** the seller can respond in a variety of ways. That is, the seller can accept the specific bid or make a specific counteroffer to the bidder corresponding to the selected product. The seller can also make block responses (in the form of deals or counteroffers) to all or some subset of buyers who have posted bids or quote solicitations for the selected product.

In addition to the bid listing, market information may be provided with interface **1100** which the merchant may use to formulate strategies for responding to any or all of the outstanding bids. For example, a demand curve for a particular product, e.g., the ThinkPad® 600, may be shown. Other market information might include price histories, bid histories, deal histories, etc. Moreover, the market information may be presented in a variety of forms such as graphically, in tables, in lists, and the like.

An example of how a merchant might use such market information will now be described. The merchant may use demand data to effect a block response. That is, the merchant can use the data to determine how much to temporarily lower its ask price to induce acceptance by a specific number of buyers. According to a specific embodiment, the merchant effects a block deal by temporarily lowering its ask price to a particular buyer to match the bid price submitted by that buyer thereby inducing acceptance by that buyer. Because the merchant's response is made in the context of a block deal, a number of responses are automatically generated to other buyers who have submitted bids at or above the particular buyer's bid thereby inducing acceptance. According to a specific embodiment, the ask price of the automatically generated responses correlate to or match the bid price of each of the other buyer's bids rather than the bid price of the particular buyer to whom the merchant specifically responds. It should be noted that, as with other aspects of the present invention, the merchant may respond to bids directed to the merchant as well as bids directed to other merchants.

According to a particular embodiment, when the merchant logs on to the system all bids currently outstanding to

that merchant for a variety of products are shown in the format of interface 1100. The merchant may then select a particular product in the product column to view all currently outstanding bids for that product either to the merchant or to a plurality of merchants. The market information presented will be adapted according to the particular view. The market information may be employed by a particular merchant in a variety of ways for decision-making support. A particular use would depend upon the nature of the information. As described above, demand data could be used to effect block deals. Demand data or the price history for a particular product could be used to make adjustments to the merchant's list price. It will be understood that there are a wide variety of ways in which such market information could be used to enhance a merchant's decision making which are within the scope of the present invention.

According to another embodiment, instead of selecting a particular product, the merchant may select a particular buyer identified in the buyer column, in response to which all bids and/or quote solicitations from that buyer currently outstanding in the system to any merchant are presented to the merchant in a format similar to that shown in interface 1100. This may also include products which have been saved to one of that buyer's shopping lists and for which the buyer has not yet posted a bid but has indicated that she is willing to solicit quotes. This allows a merchant to offer bundle deals to particular buyers when such buyers are identified. For example, a buyer might be bidding on a laptop computer, extra battery packs, a printer, and a carrying case. The merchant may respond to the buyer with a bundle bid or counteroffer which reduces the ask price for any or all of the items if the buyer chooses to buy all of those items from that merchant. This gives merchants a very powerful tool for negotiating with individual buyers. The merchant selects the items in the buyer specific list which he would like to include in the bundle and either quotes individual ask prices to the buyer for the selected items, or a single price for all the products in the bundle. According to a specific embodiment, the individual quotes (i.e., ask prices) are prefixed with a letter "B" identifying them as part of a bundle. The seller can also offer to sell related (competitive or complementary) products as part of the bundle. The seller can thus suggest products to the buyer on which he can offer good deals. This "cross selling" allows the seller to make deals on products even where such products are not originally identified by the buyer.

As described herein, a buyer may define mutually exclusive groups of the same or similar products only one of which is desired by the buyer. According to a specific embodiment, this is achieved by the buyer designating a particular shopping list listing the products as a mutually exclusive group. Once such a group is defined, a buyer may bid on a slumber of ThinkPad® 600 and 700 computers even though she only wants one. By identifying the computers (and thus their associated bids or quote solicitations) as part of a mutually exclusive group, the buyer activates a feature of the present invention which terminates negotiations for all other products in the group when the buyer has reached an agreement on any product in the group. It will be understood that, in the context of the bundle bid, this information would be useful for the merchant. Therefore, according to a specific embodiment of the invention, when a merchant is attempting to effect a bundle bid or counteroffer, the merchant is enabled to identify which of the bids and/or quote solicitation associated with the buyer are part of a mutually exclusive group. According to a specific embodiment, in the list of bids and/or quote solicitations associated with a particular

buyer, an entry is associated with each which identifies the product as part of such a mutually exclusive group. This could be an entry in a column dedicated for this purpose, or as, for example, a prefix associated with each product which is part of such a group.

According to one embodiment of the invention, market information (not shown) is made available to individual buyers in interface 900 to help them develop bidding strategies. As discussed above with regard to market information presented to a merchant, such information could include demand data, list price histories, bid price histories, deal price histories, etc. The information can be filtered with respect to particular products and particular merchants. A price history might include the minimum, maximum and median list prices offered by a particular merchant for a particular product. A price history might be used by a buyer to predict, for example, how much the price for a product might drop in the future. That is, the buyer might use the historical price decay to predict price decay for an upcoming period. For a new product, i.e., a product which has no price history, the buyer will have the option of identifying a similar product and using the price history data for that product.

Alternatively, the system of the present invention may automatically determine one or more similar products in response to a buyer requesting market information for a new product. According to a specific embodiment, the similar product may be determined with reference to a mutually exclusive group defined by the buyer. Automatic identification of a similar product could be enabled by identifying similarity in brand name, category, or data regarding what products buyers and/or sellers have identified as equivalents in the past. A technique known as collaborative filtering may be used to identify similar products using such information. Where more than one similar product is identified, a list of the similar products is presented to the buyer from which the buyer may select the product he believes is the most similar to the product for which market information is desired.

A deal history might include prices at which a particular merchant or a plurality of merchants has sold different volumes of a particular product. Such deal prices could include deal prices for transactions effected through the transaction site by the merchant or merchants. The deal history could also include deal prices for transactions effected outside of the transaction site and provided to the transaction site by the individual merchants. All of this market information provides powerful tools for a buyer to determine how much she wants to bid for a particular product.

According to a specific embodiment, good deals are identified for the buyer based on a variety of market-related heuristics. Such heuristics include, for example, the ratio of the (median-minimum merchant price for a product) to the median product price. Another heuristic could be the price drop (or the price drop for the lowest price) over a recent period (day, week, month, etc.) expressed as a percentage of the median or lowest price. These deals could be identified for the buyer on a special area of the main page or a special page of the transaction site. Alternatively, the good deals are extracted from the buyer's search results. Even more specifically, the buyer has the option of sorting his search results using the available heuristics to order the product listings according to how good the individual deals are. It should be noted that a variety of heuristics may be used to identify "good deals." For example, the difference between the lowest price and the second lowest price could be used to indicate just how good of a deal is being offered by the seller offering the lowest price.

The merchant may effect a manual response to an individual bid (252) by selecting the corresponding entry in interface 100. The bid need not be directed to the merchant. It may, in fact be directed to another merchant. That is, not only does each merchant have the opportunity to view bid information to other merchants, each merchant may also respond to such bids. According to a specific embodiment, the bid information relating to other merchants does not identify the merchants to which individual bids are directed. A negotiation between the buyer and the second merchant may then take place as described herein. In any case, selection of a particular entry in interface 100 results in presentation of trading interface 1200 of FIG. 12 to the merchant by which the merchant may either accept the bid price or submit a counteroffer to the buyer by changing the ask price for that buyer. Other information included in interface 1200 includes details about the buyer including, for example, the buyer's e-mail address and any other information authorized for release by the buyer. Note that the merchant may effect a block deal by specification of the block ask price in interface 1200. The seller may insert comments to the buyer in conjunction with the bid response such as, for example, an expiration time for the new ask price. The expiration time may also be indicated through an additional field (not shown) the contents of which may be intelligently processed by the system of the present invention to effect automatic removal of the ask price at the appropriate time. In addition and as shown, market information regarding the current bids may be provided in interface 1200.

The seller may also authorize automated responses to bids (252) by specifying a number of business rules to govern the responses using interfaces 1300–1320 of FIGS. 13a–13k. According to the present invention, any number of business rules may be defined by the seller and may be executed in any sequence specified by the seller. For each rule, the seller defines a set of criteria and a set of actions to be taken when the set of criteria is satisfied. Any number of criteria may be defined and combined in a variety of ways using logical operators (e.g., AND, OR, NOT) and groupings. Examples of criteria include (but are not limited to) bid-list spread, product type or group, the number of units, the buyer's reputation, etc. Similarly, any number of actions may be specified. Examples of actions includes (but are not limited to) text responses, ask price reductions, bid acceptance, etc. Another possible action could be generation of an e-mail message to one or more e-mail addresses. This can ensure that the appropriate representative(s) of the seller can be made aware of attractive sales prospects as soon as they are available at the transaction site. The e-mail(s) can ensure this without requiring the seller's representatives to continuously monitor the transaction site. This is especially useful during the early stages of the transaction site when it has relatively low traffic and hence cannot justify continuous monitoring by the seller or its representatives. The seller may reach the various Business Rules interfaces by selecting the corresponding HTML link at the top of interface 1200. In interfaces 1300 and 1302, respectively, the seller may specify a percentage or dollar value spread relative to the current list price within which a response will be automatically given. That is, if a bid is not close enough to the list price, no response may be given. The amount by which the list price may be reduced may also be specified as a percentage of the current list price. Product specific and buyer specific response may be added via interfaces 1304 and 1306 to address issues related to specific products, or to favor preferred customers. Other information may be con-

veyed to the buyer as part of an automated response by means of a text entry box entitled "Text Response." As shown, the text could indicate an expiration period for the bid response.

FIGS. 13e through 13k show alternative interfaces for specifying and modifying business rules. As shown in interface 1308 of FIG. 13e, existing business rules are accessed through a list window entitled "Current Business Rules". Rules may be added and deleted from the list using the "Create New Rule . . ." and "Delete Current Rule . . ." buttons. The currently highlighted rule in the "Current Business Rules" window is specified in a window with the title of the current rule at the top of the box as shown. A variety of criteria are specified using the "add criteria" button as will be discussed below. A variety of actions to be taken if the criteria are satisfied are also specified using the "add action" button. In the rule illustrated in interface 1308, if a product which is the subject of a particular bid is part of a Hi Inventory product group (previously specified by the seller by selecting the HTML text "product set") and the bid-list spread is greater than or equal to 50%, the action taken is to respond to the bidder with the text message "Please be serious—your bid is less than half our list price." Similarly, in interface 1310, if the bid-list spread is between 10 and 50%, the actions taken are to reduce the ask price by 10% and present the text message "We have a great deal for you—we can offer you a 10% discount." Finally, as shown in interface 1312, if the bid is within 10% of the list price, an acceptance message is transmitted to the bidder. Other criteria could be specified such as, for example, the number of units bid upon (interface 1314). In addition, any combination of criteria may be specified. Such as, for example, the number of units, the bid-list spread, and the buyer reputation (interface 1316).

The mechanism by which a new business rule may be created will now be discussed with reference to interfaces 1318 and 1320 of FIGS. 13j and 13k. In response to selection of the "Create New Rule . . ." button, a blank rule box is presented (interface 1318) in which the seller may specify the title of the rule, the criteria which must be true for action to be taken (using the "add criteria" list), and the actions to be taken (using the "add action" list). Many different combinations of criteria may be specified and different combinations of actions may also be specified. In the example shown in interface 1320, the criteria specified include the buyer reputation and the number of units, while the actions specified include reducing the ask price by 10% and displaying a text message. So, if a buyer with a highly rated reputation bids on more than 10 units, according to the new rule, the ask price is reduced by 10% and a text message is presented stating, "Because of your excellent reputation, we are able to offer you a 10% volume discount." According to a specific embodiment, the business rules of the present invention automatically ensure that, regardless of the way in which a seller specifies its rules, the ask price will never be reduced below the bid price. That is, even where a 10% reduction in ask price is specified in the seller's rule, the actual price reduction may be less where the bid is within 10% of the original ask price.

In addition, the merchant may specify response behavior which employs the market information from interface 1100. For example, an automated block deal response may be specified. Business rules may also be specified in a manner which takes into account specific attributes of individual bids. For example, the seller's response to a bid may be made contingent upon the number of units requested in the bid. This allows sellers to automatically give volume discounts.

A variety of complex rules may be specified so that automated responses may be given to the majority of outstanding bids, even bids to other merchants. Rules may be combined in various ways and multiple rules based on different criteria may be simultaneously applied. According to specific embodiments of the present invention, business rules may be linked to files external to the transaction site at, for example, the merchants own file server. Such rules might incorporate proprietary information over which the merchant wishes to maintain control. For example, if a particular merchant wishes to employ a specific subset of rules for products on which the merchant has a 10% gross margin, the rule determination for a particular bid would require current information regarding the gross margins for the merchant's product line. Understandably, this is information which a merchant might want to maintain as confidential.

Thus, even though the seller may not be willing to share his gross margins with the transaction site, he might still be willing to query his database and identify all the products that meet his requirements for gross margins (or any other criteria like inventory position) and then save the list of products into a file. The seller can then upload this file containing the list of products to the transaction site so that the list could be used with business rules specified by the seller. The seller could also place this file on the Internet and allow the transaction site to get access for use with business rules. It should be noted that in a similar way the seller can also create lists for buyers (buyer sets) that identify list of buyers and then allow the transaction site to access these lists for use with the seller's business rules. By specifying links to the confidential or proprietary information in its business rules, the merchant can maintain the information on its own site while also using it to automatically effect transactions at the transaction site. It will be understood there are myriad rules which may be applied and combined according to the specific goals of a particular seller and that the examples given above are merely illustrative and should not be used to limit the scope of the invention.

Not only may the buyer receive a manual or automated response from the seller to which the bid was intended, he may also receive a response from another seller who had access to the buyer's bid information via their own private interface. In fact, according to specific embodiments of the present invention, some powerful market enhancements are made possible by enabling sellers to respond to buyer's bids in a flexible manner. For example, a seller could respond to a bid to itself or another seller for a first product by offering a better deal on comparable competitive product. This would allow a seller to compete for sales where it does not carry the specific product to which the bid was originally directed. It also allows sellers to offer preferred products which closely match or exceed the performance or specifications of the product in the original bid.

Another market enhancement made possible by providing other seller's bid information and allowing flexible bid responses is related to the creation of bundle responses by the seller. As discussed above, a seller may create a bundle response from currently outstanding bids by a particular buyer. In addition and according to a specific embodiment of the invention, a seller may respond to a bid to itself or another seller with an offer for a related product. So, for example, if a buyer is bidding on a laptop computer, the seller can offer the buyer a carrying case for the laptop or extra battery packs at a reduced price, or even at no additional cost. This allows the seller to create a bundle which includes the product for which the buyer is bidding and one or more related products. Thus, the seller can

identify and target markets for specific products without having to rely on the consumer's knowledge of or motivation to bid on such related products. The seller can also leverage its inventory in the related products to effect sales of the primary product.

Where the seller's response is a counteroffer (254), the counteroffer price appears as a modified ask price in both the merchant's bid list of interface 1100 and the buyer's shopping list of interface 900 as shown in FIGS. 14 and 15, respectively. According to a specific embodiment, entries in the shopping list of interface 900 for which a response has been received from the seller are highlighted in a contrasting color as shown. Where the buyer does not accept the seller's counteroffer, he may adjust his bid by entering a new bid price as shown in FIG. 16. By activating the "Bid" button for that entry in his shopping list the buyer then submits an adjusted bid (258). Note that because the bid has been adjusted, it is treated like a new bid and the entry is no longer highlighted. Alternatively, the buyer may terminate negotiations with the seller at any time (260). In any case, where the buyer and seller have not yet agreed on a price (216), additional rounds of negotiating may take place as described above.

If the buyer accepts the seller's ask price in interface 900 by activating the "Buy" button (212) or the seller accepts the buyer's bid price in interface 1200 of FIG. 17 (254), i.e., the buyer and seller agree on a price (216), all other negotiations relating to a mutually exclusive group associated with the product for which an agreement was reached are automatically terminated (218). That is, the availability to any sellers of the buyer's outstanding bids or quote solicitations (which are part of the mutually exclusive group defined by the buyer) is terminated. According to a specific embodiment, the buyer can enable this feature by specifying which of a plurality of currently ongoing negotiations should be part of a mutually exclusive group in which all negotiations are automatically terminated when an agreement in any one of the negotiations is reached. Any number of mutually exclusive groups each relating to one or more products may be associated with a particular buyer in accordance with the goals of that buyer. According to a specific embodiment, the buyer may use the shopping list of the present invention to define the mutually exclusive groups. That is, as described above, the user may designate a shopping list as such a mutually exclusive group such that the bids submitted from that shopping list will be processed in accordance with the mutual exclusivity feature of the present invention. Alternatively, the products in a particular shopping list may be designated independent of each other in the case where, for example the buyer is interested in all of the products in the list.

The mutual exclusivity feature of the present invention has significant value for the buyer even where negotiations are non-binding because it will serve to protect the buyer's reputation. That is, as described herein, a buyer's reputation is tracked based on previous transaction behavior, especially with regard to the number of bids honored or reneged upon by the buyer. Mutual exclusivity provides a mechanism whereby the buyer may generate a number of non-binding bids without the risk that her failure to pursue some of those bids would sully her reputation.

After a deal has been made, the entry is highlighted in the buyer's relevant shopping list in interface 900 (FIG. 18), the date of the agreement is displayed in the "Purchase Date" column, and consummation of the transaction is facilitated (220). According to various embodiments, the buyer need only select HTML text in the "Merchant" column in inter-

face **900** in the appropriate shopping list entry to go directly to the merchant's web site for consummation of the transaction. According to other embodiments, the transaction may be consummated at the transaction site using private interfaces between the merchant and the buyer. According to still other embodiments, the buyer's payment and shipping information is provided to the seller by the transaction site upon authorization by the buyer. This information may be acquired by presenting an input interface to the buyer requesting the information, or, alternatively, from a database of previously collected information concerning the buyer.

In one embodiment of the invention, individual buyers are given incentives to influence prospective buyers to use the transaction web site on server **102**. That is, the buyer submits a confidential list of e-mail addresses (or sonic other appropriate identifier) to the transaction web site. Transactions on the web site are monitored and some sort of economic benefit is automatically accrued to the buyer each time one of the prospective buyers on his list engages in a transaction. The economic benefit could be, for example, cash or transaction site "dollars", or discounts on future transactions. According to specific embodiments, both the number of people identified by the buyer in his list and the total amount of economic benefit accrued in a given period of time are limited. According to various embodiments, a buyer may only list individuals who are not currently users of the transaction site. That is the buyer may only benefit from the transactions of individuals who become users of the site after the buyer lists them.

According to various embodiments of the invention, incentives are provided not only to encourage buyers to influence others to use the transaction site, but also to make it attractive for current users to continue using the site. For example, accounts are created for each registered user in which virtual "dollars" are kept. These virtual dollars are a currency unique to the transaction site which may be used against purchases effected through the transaction site. As discussed above, one way of accruing virtual dollars is through transactions engaged in by a list of influences. Some percentage of a buyer's own transactions could also be credited to his account. In addition, a buyer could be offered virtual dollars for providing specific information in an online form for the administrator of the site or one of its marketing partners. For example, a buyer could be asked if he would mind filling out a credit card application form for a specific number of virtual dollars. These virtual dollar credits accrue to the buyer simply for filling out the form, regardless of whether or not an associated transaction is consummated. Moreover, the accrued credits may be used in any of a variety of ways at the transaction site at any time chosen by the holder of the credits. This is in contrast with features at various sites in which a credit is only applicable to a current transaction and only where the transaction goes through.

While the examples herein have been described with reference to a merchant entity having its own web site, it will be understood that a seller need not have a web site to effect transactions according to the present invention. In fact, according to various embodiments, it is possible for a merchant to be hosted by the transaction site described herein (e.g., server **102** of FIG. 1) and to conduct all of its business through the transaction site without having its own web site, wholesale, or retail facilities. Even individuals may act as sellers on specific embodiments of the transaction site of the present invention. Such individuals could list new or used items to the transaction site's database which, when satisfying a buyer's search criteria, would be listed alongside the similar products of merchants of all sizes. This

allows sellers of all sizes to vie for customers on a relatively equal footing. It also allows buyers to see prices from a wide variety of sellers, even those without e-commerce enabled web sites.

5 Allowing individuals to act as sellers on the transaction site and post what are essentially classified ads makes other features of the present invention possible. For example, individual posting such classifieds to the transaction sites are given the option to automatically post the listing in an appropriate format to other free locations which are appropriate for the posting of such messages. For example, when specifying a listing on the transaction site of the present invention, an individual may select options which result in the automatic posting of the listing on Usenet or any of a wide variety of free classified sites. According to a specific embodiment, the postings are made in the name of the individual and contain hypertext links back to the transaction site. It is important to note that this type of posting would not qualify as SPAM in that they are posted by individuals and only on sites appropriate for such postings.

According to a specific embodiment of the invention, a buyer need not even submit a bid to begin negotiations with one or more sellers. Instead, the buyer may submit a request for quotes from sellers for a particular product or bundle of products. According to a specific embodiment, this may easily be accomplished by the buyer through the creation of a shopping list for the product or bundle of products, and designating the shopping list as one for which quotes are automatically solicited. According to specific embodiments, this could be the default for all new shopping lists. Alternatively, the buyer could be required to select this option when creating a new shopping list. This feature allows the buyer to make the sellers do the work. Once quotes are received by the buyer, negotiations can proceed in the manner described above. According to one embodiment, the request for quotes may be submitted via a shopping list created by the buyer as described above. That is, the buyer may create a specific shopping list for which the may select a "Request for Quotes" option in response to which a request for quotes is generated and posted for each of the items in the list. In a more specific embodiment, the buyer has the option of specifying particular sellers from which quotes are desired.

Other features of the present invention involve the concept of post-purchase tracking. According to one embodiment, data are compiled for the buyer across all products purchased through the transaction site. For example, data could be compiled for order numbers, product numbers, dollars expended on particular products or for all products. This feature is particularly valuable for a corporate buyer to keep track of inventory and spending.

According to other embodiments, individual products in a post-purchase list associated with a particular buyer are linked with lists of related products which would allow a buyer to subsequently upgrade the purchased product or to purchase add-on items. Once the linked list is presented to the buyer, negotiation for any of the products in the list may proceed in the manner described above.

According to still other embodiments, individual products in a post-purchase list associated with a particular buyer are linked with market data regarding the current value of those products. Associated hypertext links are also provided allowing the buyer to turn around and offer the product for sale. This subsequent resale may occur after the useful life of the product for that user, or immediately after the initial purchase. As will be understood, this feature enables specu-

lation by the buyer in any of the products offered for sale through the transaction site.

In addition, the transaction site of the present invention can track all of the data necessary for the creation and trading of options at the transaction site. The fact that there may be many different list prices for a particular product is dealt with by using some sort of formula or default value which uniquely identifies a product price. For example, the median list price at the transaction site could be the value upon which the options are based. Alternatively, deal price data may be used. According to yet another alternative, some minimum price could be established by the transaction site.

While the invention has been particularly shown and described with reference to specific embodiments thereof, it will be understood by those skilled in the art that changes in the form and details of the disclosed embodiments may be made without departing from the spirit or scope of the invention. For example, operation of a specific embodiment of the present invention has been illustrated herein with reference to a hypothetical transaction between a buyer and seller. It will be understood, however, that specific transactions will likely differ considerably from the example described without departing from the scope of the invention. Moreover, specific embodiment have been described herein with reference to a web site on the World Wide Web. It will be understood that the other embodiments of the invention may be implemented in any of a wide variety of network environments.

Additionally, the negotiations described above have been described largely as a non-bidding process until after a mutually agreeable price has been found and the parties decide to consummate the deal. However, it will be understood that negotiations may be made partially or fully binding without departing from the scope of the invention. That is, a payment identifier such as, for example, a credit card or billing account may be requested before a party is allowed to negotiate. If the party attempts to terminate negotiations prematurely, some sort of penalty may be assessed to the identified account.

Finally, many of the embodiments of the present invention have been described in a context in which a transaction site acts as an intermediary between buyers and sellers. However, it will be understood that the scope of the present invention also encompasses negotiations, transactions, and other various features described herein when occurring directly between a buyer and a seller on, for example, the web site of the seller. These features include (but are not limited to) shopping lists, mutual exclusivity, request for quotes, buyer reputation, demand curve creation and use, block responses, bundle bid creation, cross-selling and all other aspects of the invention described above.

Conceivably, any seller selling products at list prices on the Internet could get additional value by enabling negotiations and other related features as described herein. It is therefore important to note that the scope of this invention includes all of the features described herein, even where these features are enabled at the web sites of sellers who directly sell products to buyers. Therefore, the scope of the invention should be determined with reference to the appended claims.

What is claimed is:

1. A computer-implemented method for facilitating a transaction between a buyer and one of a plurality of seller via a network, the method comprising:

enabling the buyer to generate a shopping list identifying at least one product associated with the plurality of

seller, each entry in the shopping list corresponding to one of the at least one product and a corresponding one of the plurality of seller;

identifying the shopping list as a mutually exclusive group in response to receiving input from the buyer via the network, the mutually exclusive group including each entry in the shopping list;

enabling the buyer to negotiate substantially simultaneously with the plurality of sellers in the mutually exclusive group via the network; and

when an agreement is reached between the buyer and a first one of the plurality of sellers in the mutually exclusive group, automatically terminating negotiations between the buyer and others of the plurality of sellers in the mutually exclusive group.

2. The method of claim 1 wherein enabling the buyer to negotiate comprises:

presenting via the network product information relating to a plurality of products meeting product criteria specified by the buyer, one of the plurality of sellers being associated with each of the products;

making a plurality of bids from the buyer for selected ones of the plurality of products available via the network to the plurality of sellers, selected ones of the plurality of bids corresponding to the mutually exclusive group; and

presenting at least one bid response via the network to the buyer from any of the plurality of sellers.

3. The method of claim 2 wherein terminating negotiations comprises making the selected bids unavailable to the others of the plurality of sellers.

4. The method of claim 2 wherein the selected bids relate to more than one of the plurality of products.

5. The method of claim 2 wherein the selected bids relate to one of the plurality of products.

6. The method of claim 2 wherein the plurality of bids are all for a first amount.

7. The method of claim 2 wherein the plurality of bids are for varying amount.

8. The method of claim 1 wherein the agreement comprises an acceptance by either of the buyer and one of the plurality of sellers.

9. The method of claim 1 further comprising enabling the buyer to define the mutually exclusive group.

10. The method of claim 9 wherein enabling the buyer to define the mutually exclusive group comprises allowing the buyer to identify selected ones of the plurality of products with the mutually exclusive group.

11. The method of claim 10 further comprising enabling the buyer to define more than one mutually exclusive group.

12. A computer program product, comprising:

at least one computer-readable medium; and

a computer program mechanism embedded in the at least one computer-readable medium for causing a computer to facilitate a transaction between a buyer and one of a plurality of seller via a network, the computer program mechanism comprising:

first instruction for enabling the buyer to generate a shopping list identifying at least one product associated with the plurality of seller, each entry in the shopping list corresponding to one of the at least one product and a corresponding one of the plurality of seller;

second instruction for identifying the shopping list as a mutually exclusive group in response to receiving input

from the buyer via the network, the mutually exclusive group including each entry in the shopping list;
third instructions for enabling the buyer to negotiate substantially simultaneously with the plurality of sellers in the mutually exclusive group via the network; 5
and
fourth instructions for when an agreement is reached is between the buyer and a first one of the plurality of sellers in the mutually exclusive group, automatically terminating negotiations between the buyer and others 10
of the plurality of seller in the mutually exclusive group.
13. A computer-implemented method for facilitating a transaction between a buyer and a seller via a network, the method comprising: 15
enabling the buyer to generated a shopping list identifying a plurality of products associated with the seller, each

entry in the shopping list corresponding to one of the plurality of products;
identifying the shopping list as a mutually exclusive group in response to receiving input from the buyer via the network, the mutually exclusive group including each entry in the shopping list;
enabling the buyer to negotiate substantially simultaneously with the seller for the plurality products in the mutually exclusive group via the network; and
when an agreement is reached between the buyer and the seller for a first one of the plurality products in the mutually exclusive group, automatically terminating negotiations between the buyer and the seller for others of the plurality of plurality of products in the mutually exclusive group.

* * * * *

TAB E



Databases selected: Multiple databases...

**Investigation is the best preparation: RESEARCHING EQUITIES ONLINE:
ALPESH B PATEL Avail yourself of the host of user-friendly web sites
there to help traders understand companies they invest in; [Surveys
edition]**

Patel, Alpesh B. Financial Times. London (UK): Jan 29, 2000. pg. 10

Abstract (Summary)

"Before you invest, investigate," declares an advert for an online trading site. It is one of the most important pieces of advice, yet often neglected by online traders, even though a host of ever user-friendly web sites make equity research not only simpler and quicker, but also (dare I hope) fun.

Fundamental analysis is probably best started using a stock screen. Online stock screens allow the user to enter certain criteria, such as price-earnings (p/e) ratio below 20, revenue growth of 20 per cent, market capitalisations greater than £100m. The site then provides a list of stocks matching the criteria. This can then be a starting point for more detailed equity research.

For fundamental analysis, sites offering summaries of company accounts are a must. I use E*Trade (www.etrade.co.uk), UK Invest or DLJ Direct (www.dljdirect.co.uk).

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TAB F

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Databases selected: Multiple databases...



The striking price: Some option

Michael Santoli. Barron's. New York, N.Y.: Aug 23, 1999. Vol. 79, Iss. 34; pg. MW13, 1 pgs

Abstract (Summary)

1 Last week, a competitive option-listing war erupted, in which the longstanding tacit agreement among exchanges to keep certain high-profile option classes on a single exchange was scotched. The Chicago Board Options Exchange fired the first shot with its decision to begin trading in Dell Computer options - the lifeblood of the Philadelphia Stock Exchange. Amex quickly said Dell would also begin trading on its floor. The PHLX countered that it would host trading on the CBOE's IBM, Coca-Cola and Johnson & Johnson classes. One invisible hand pushing along this process is government intervention in the markets in the form of a continuing Justice Department investigation into the way the exchanges have maintained exclusive listings of certain "grandfathered" options.

Full Text (684 words)

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[Headnote]

Competitive listing has its fallacies

2 IN THE INSULATED CALM OF A JUSTICE Department conference room or an introductory economics course in a university lecture hall, competition is nothing but a good thing. But in the raucous atmosphere of real world markets, the virtues of increased competition are not quite so unambiguous.

3 This observation is prompted by the eruption last week of a competitive optionlisting war, in which the longstanding tacit agreement among exchanges to keep certain high-profile option classes on a single exchange was scotched. The Chicago Board Options Exchange fired the first shot with its decision to begin trading today in Dell Computer options-the lifeblood of the Philadelphia Stock Exchange. The American Stock Exchange quickly said Dell would also begin trading on its floor. The PHLX countered that it would host trading in the CBOE's IBM, CocaCola and Johnson & Johnson classes, with all the resigned inevitability of Belgium declaring war on Germany with the Luftwaffe already buzzing overhead.

4 One invisible hand pushing along this process, ironically enough, is government intervention in the markets, in the form of a continuing Justice Department investigation into the way the exchanges have maintained exclusive listings of certain "grandfathered" options. And to hear the CBOE tell it, the Dell salvo was also prompted by securities firms' requests that it list the options class as the PHLX prepares to take Dell onto its own technology platform September 1. Since the Amex and PHLX first inked plans for their now-scrapped merger, Amex technology has supported the Dell crowd.

5 But amid the huzzahs from those who presume that competition always breeds efficiencies that ultimately flow back into customers' pockets, it seems appropriate to point out some unpopular realities. First, the stocks whose options are listed on a single exchange are some of the highest-volume names, and said options tend to trade in the most-liquid fashion. If there are complaints about lousy markets and wide bid-ask spreads in options circles - and there are always plenty - they tend to involve the more neglected, illiquid options, not these bellwethers.

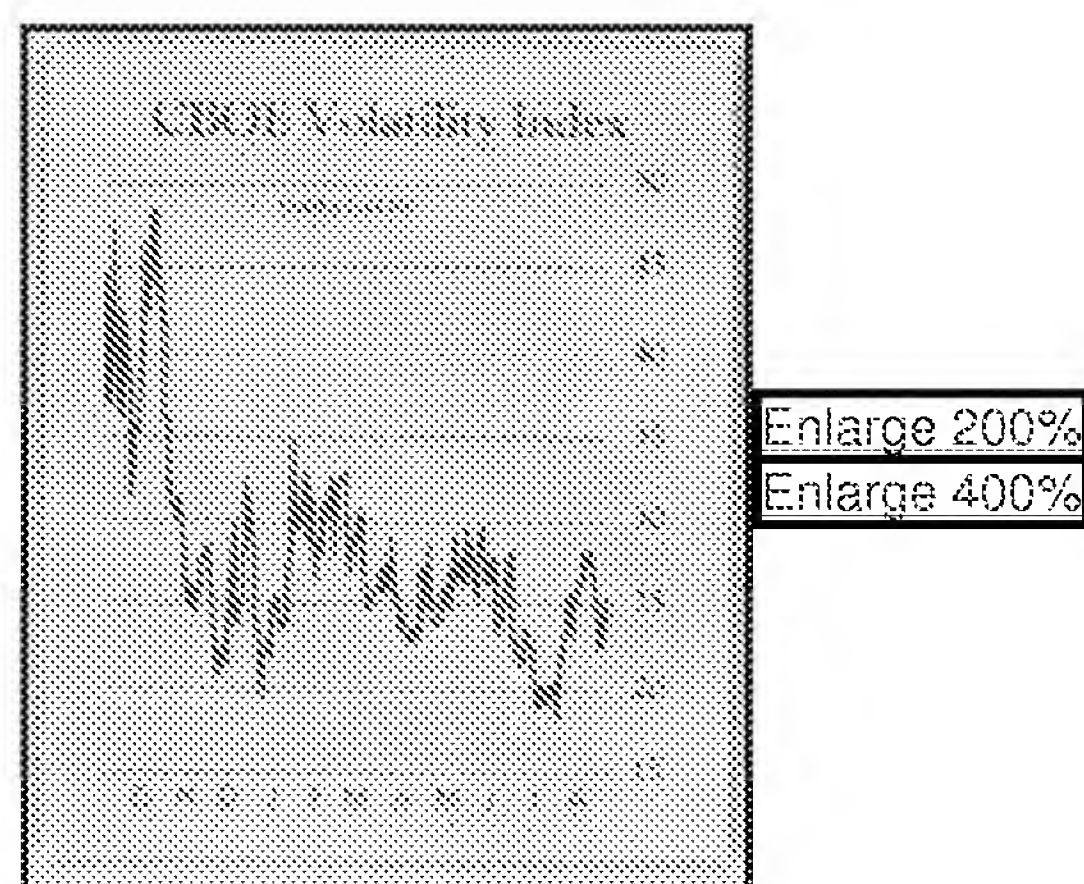
6 What's more, competitive listings of busy options create their own expensive frustrations in the form of crossed markets and quote logjams that are the bane of the trader even today, when it comes to multiply listed options. Here's the trouble: When more than one exchange lists an option, upstart market makers are prone to posting phantom bids and offers which appear better than the dominant market's but are backed by scant willingness to

truly trade at those prices in any significant size. So, the broker forced to chase the best posted price for a customer finds that trying to get a trade done at the secondary exchange is like pushing on a string, and then must circle back to the true pool of liquidity at another exchange. The result is time wasted, opportunities and possibly money lost.

In a slightly exaggerated illustration, imagine a world where a 911 dispatcher was required to put rescue assignments out to bid among several emergency units. Should she believe the untested crew who promises to get there faster, or go with the standard outfit that's always worked the territory well in the past?

Crossed markets, where the bid on one exchange exceeds the offer on another, are another absurd result of many multiple listings. Headaches such as these explain why the head options trader for a major securities firm - not a man likely to advocate anything that would raise his costs - was recently pleading for exchanges without much volume in some Internet names to actually drop them.

Of course, if the worthy market makers at the CBOE, combined with superior technology, create a truly robust market for Dell, everyone benefits, except those in Philadelphia whose profit margins might be trimmed. But there is a fallacy at work in the apparent thinking of the Justice Department in probing these issues. Namely, it is that somehow a market is noncompetitive simply because certain options trade only in one city - notwithstanding the clamor of competition raging on that single floor among the sundry providers of capital there.



CBOE Volatility Index

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